Report on visit of DHI delegation to Hannover Messe 2015

April 13-17, 2015, Hannover, Germany

HE & MT Section, Department of Heavy Industry

Department of Heavy Industry
(HE&MT Section)
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Executive Summary of the Report

The Department of Heavy Industry had sent a high level delegation led by Dr Rajan Katoch , Secretary with other members consisting of Shri Vishvajit Sahay, Joint Secretary and Shri Sanjay Chavre, Senior Development Officer. Department of Heavy Industry also organised a display of Indian Heavy Engineering Industry in an area of 270 sqr. mtrs., prominently opposite India Pavilion in hall no.6 of Hannover Messe 2015. It is stated that Hannover Messe is the largest engineering exhibition of the world. More than 2,20,000 trade visitors from around the globe visited the fair in which 6500 companies from 70 countries showcased their products. This includes 400 companies from India. The theme of Indian participation was 'Make in India'.

ii. The Indian Heavy Engineering pavilion consisted of PSUs and industry associations, namely, BHEL, HMT, HEC, BBJ, AYCL, CII, TAGMA, IEEMA, ACMA, SIAM, IMTMA and ARAI. Indian Heavy Engineering Industry pavilion by DHI showcased the latest technologies of India to the world. The pavilion was visited by VVIPs including the Hon'ble Minister of State for Commerce and Industry.

iii. Recommendations: The positive response received from the participation leads to upgradation of scope and manner of next participation, highlights of which should be:-

- **Next time the Department should hire atleast 500 sq mts (about double of this time) and should put up greater show by heavy Engineering companies under the banner of their associations.**
- **The theme should be "Make in India : Next Steps in Manufacturing Technologies"**
- **More seminars and one to one meetings should also be organized on the theme – sub-divided in specific subjects like advanced manufacturing, 3_D printing, electric mobility, Solar Energy technologies etc.**
- **The Department should designate EEPC from now to plan for the next event.**
- **Brand Consultants and Media Agencies should also be appointed.**
- **Each of the Association should be given responsibility to organize one Forum at the DHI space, which will showcase opportunities for business and technology transfer.**

- **Stall Designing should be better than this time, at par with Siemens and other leaders.**
- **The Department should zero down to ten or so technologies and should send 3-member delegation for each of the technology to do profiling at the Fair and for that matter in other fairs too.**
- **DHI PSUs should be given specific targets from the exhibition.**
- **Pre-event publicity, road shows and events should be organized through EEPC, VDMA , Deutsche Messe and EoI, Berlin.**
- **Dialogue with Fraunhofer should be continued to set up similar industrial products and technologies development facilities in India.**
- **The Department should extensively support VDMA as well Deutsche Messe for organizing WIN 2015 in December 2015 at Pragati Maidan, New Delhi.**
- **DHI/ representative agency should sign an MoU with Deutsche Messe, VDMA and Indo- German Chamber of Commerce during the forthcoming visit of the German Chancellor to India later in the year. The MoU could define roles and various components in Hannover Messe and other events in India and Germany to uplift Indian manufacturing sector as important step on "Make in India". During the same visit, DHI could organize Indo-German CEOs Forum on Manufacturing technologies.**

iii. In conclusion, the visit provided exposure to latest technologies in Industry 4.0 and also helped showcase Make in India opportunities to Germany and the rest of the World in the Capital Goods and Automotive sector. The seven MoUs open the way for the CPSEs to get superior technology and skills. Indian exhibitors in the pavilion were also exposed to the latest technologies relating to industry 4.0 – theme of the fair. Secretary, DHI delivered three key note addresses at seminars on Opportunities in India in electrical industry, Heavy Engineering Industry and Motion Drive Automation. The DHI delegation led by the Secretary also met VDMA, Fraunhofer, NORD and a number of other German companies. Demonstration of 3D-printing technologies, robotics and electrical modalities technologies were also witnessed by the DHI delegation. The specific achievements include the following:-

- ✓ **Working with Deutsche Messe to expand window of exposure of Indian companies to latest manufacturing technologies i.e. Industry 4.0,**

- ✓ **Working with VDMA to support German companies in India for "Make in India.**

- ✓ **Working with Fraunhofer to set up a Fraunhofer like institution in India.**

- ✓ **Fraunhofer and BHEL, HEC and ARAI are working to develop understanding on specific technology projects.**

- ✓ **Signing of seven MoUs by DHI PSUs, namely, BHEL with INTMA Russia, Rajasthan Electronics and Instrumental Limited with MILACRON Electronic Limited Bulgaria, Instrumentation Limited with Kauer Engineering Germany, HMT with NUM Controls, Switzerland as well as ENIT Germany, HEC with KIROW ADELT Germany as well as Europe India Foundation for Excellence, Belgium.**

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Background:

1. HANNOVER MESSE 2015 (April 13 -17) is the World's largest engineering fair in industrial technology. HANNOVER MESSE is also the initiator of important investments in technology and automation. With 10 leading trade fairs taking place in parallel, HANNOVER MESSE covers a wider range of themes and exhibits than any other event. The opportunity to develop new sales leads in other sectors, unique access to new products and technologies and a huge international presence attract exhibitors from all over the world. Large enterprises, SMEs as well as aspiring start-ups benefit in equal measures from new contacts, new networking opportunities. Exhibiting firms will have direct access to new markets and sales opportunities for their products and solutions.

Hannover Mess 2015- A profile

- 6500 exhibitors from over 70 countries
- 2,20,000 trade visitors including 70,000 visitors from Germany
- 150 Business delegations

2. HANNOVER MESSE 2015 covers all the core themes of the industrial value-adding chain at a single location – from individual components to the complete smart factory. Current hot topics such as Industry 4.0, energy efficiency and lightweight construction were discussed in many different forums at the show. Core themes are INDUSTRIAL AUTOMATION, INDUSTRIAL GREENTECH, DIGITAL FACTORY, RESEARCH & TECHNOLOGY, ENERGY, MOTION DRIVE & AUTOMATION and MOBILITEC.

Key elements of India's participation as "Partner Country"

1. **Participation of 352 exhibitors spread across 10 sectroal halls in a total area of 5000 sqm.**
2. **Decentralized Exhibition and Satellite concept. The centralized pavilion has official central meeting place with additional designated area for Group Pavilion and Individual Exhibitor within the relevant industrial sectors.**
3. **8 Government of India Ministries / Departments participating through 6 sectoral seminars. The focused topics of the seminars were Digital India, Heavy Engineering, Electricals & Electronics, Skill India, Renewable Energy & Smart Cities.**
4. **15 State Governments participation i.e. Maharashtra, Chhattisgarh, Himachal Pradesh, Uttar Pradesh, Tamil Nadu, Andhra Pradesh, Rajasthan, Meghalaya, Gujarat, Punjab, Bihar, Madhya Pradesh, Jharkhand, Assam and Telangana**
   a. **Boards: Tea Board, Coffee Board & Spices Board**
5. **6 State Seminars, Seminars also by DHI, DeITy and other central ministries.**
6. **120 Top CEOs**
7. **State Pavilions highlighting Industrial, Investment and Technology opportunities. Pavilion from Department of Heavy Industry(DHI), Department of Electronics & Technology Information (DeitY), Department of Bio-Technology(DBT) and Department of Tourism.**
8. **India's participation at the fair was based on "Make in India" theme with extensive branding of the campaign in the Hannover city and on the fair grounds. Extensive publicity and branding of India's participation as "Partner Country" at Hannover Messe 2015 was handled by Department of Industrial Policy and Promotion (DIPP).**
9. **To substantiate the participation of the exhibitors at the fair, EEPC India launched B2B Portal to facilitate the business networking of the participating companies.**

3. On the

second day of his visit, PM Narendra Modi and Chancellor Angela Merkel jointly inaugurated the India Pavilion at the Hannover Messe. This was followed by a cultural evening.

5. Both the leaders undertook on foot tour of the Indian stands in Hall no. 6 as well as other halls. Hall no. 6 was where DHI's India Heavy Engineering Pavilion was located. 12 states pavilions were also located here. Also located were stalls of CII, Reliance, Kirloskar, EEPC, Tea Board etc. Few German stalls like Siemens, Nord etc were also visited. Later on both the leaders addressed top CEOs of both the sides at Indo-German Business Summit at the Hannover Messe. Speeches by both the leaders were followed by panel discussions. Secretary (Heavy Industry) represented the Department in the Summit. The Summit was very well received by the participants and press and media.

6. The Department of Heavy Industry had deputed a high level delegation led by Dr Rajan Katoch , Secretary with other members consisting of Shri Vishvajit Sahay , Joint Secretary and Shri Sanjay Chavre, Senior Development Officer. Department of Heavy Industry also organised a display of Indian Heavy Engineering Industry in an area of 270 sqr. mtrs., prominently opposite India Pavilion in hall no.6 of Hannover Messe 2015.

7. The 'Indian Heavy Engineering Industry' Pavilion consisted of PSUs and industry associations, namely, BHEL, HMT, HEC, BBJ, AYCL, CII, TAGMA, IEEMA, ACMA, SIAM, IMTMA and ARAI. The pavilion put together by DHI-EEPC showcased the latest

technologies of India to the world. The pavilion was visited by VVIPs including the Hon'ble Minister of State for Commerce and Industry. DHI showcased major products, technologies and services. BHEL displayed a wide range of products and systems that can help achieve more efficiency such as the energy efficient 660 MW Super-critical Boilers and Turbine Generator units. The list includes:-

1. Model of 1200 kV Transformer:
2. Model of Single cylinder Steam Turbine
3. Product - Permanent Magnet Generator
4. Product - 500 kW Solar PCU
5. Product - Composite Hollow Insulator 765 kV
6. Model of Oil Rig

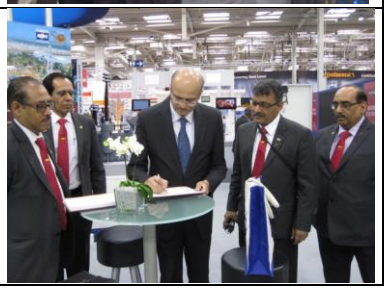
8. ARAI displayed its design development and homologation services. HMT displayed ball screws and other major technological innovations. ACMA displayed advanced auto components. CII displayed specially made audio visual for the occasion. SIAM exhibited models made by Indian the automotive sector. HEC exhibited scale models of its products and facilities. AYCL and BBJ exhibited their products and also ranplasma displays. IMTMA used plasma displays to show case Indian Machine Tools Sector. IEEMA exhibited brochures and audio visuals.

9. Secretary (Heavy Industry) and the Joint Secretary met each of the exhibitors at the DHI Pavilion on first day of the exhibition i.e. April 13, 2015 and discussed the displays/exhibits and programme at the Hannover Messe. A very large number of visitors including VVIPs visited DHI Pavilion and discussed mutual business with the constituent members. Overall combined display strategy was found to be effective.

i. BHEL
ii. IMTMA
iii. HTM
iv. AYCL
v. BBJ
vi. SIAM
vii. ACMA
viii. CII
ix. IEEMA
x. HEC
xi. TAGMA
xii. ARAI



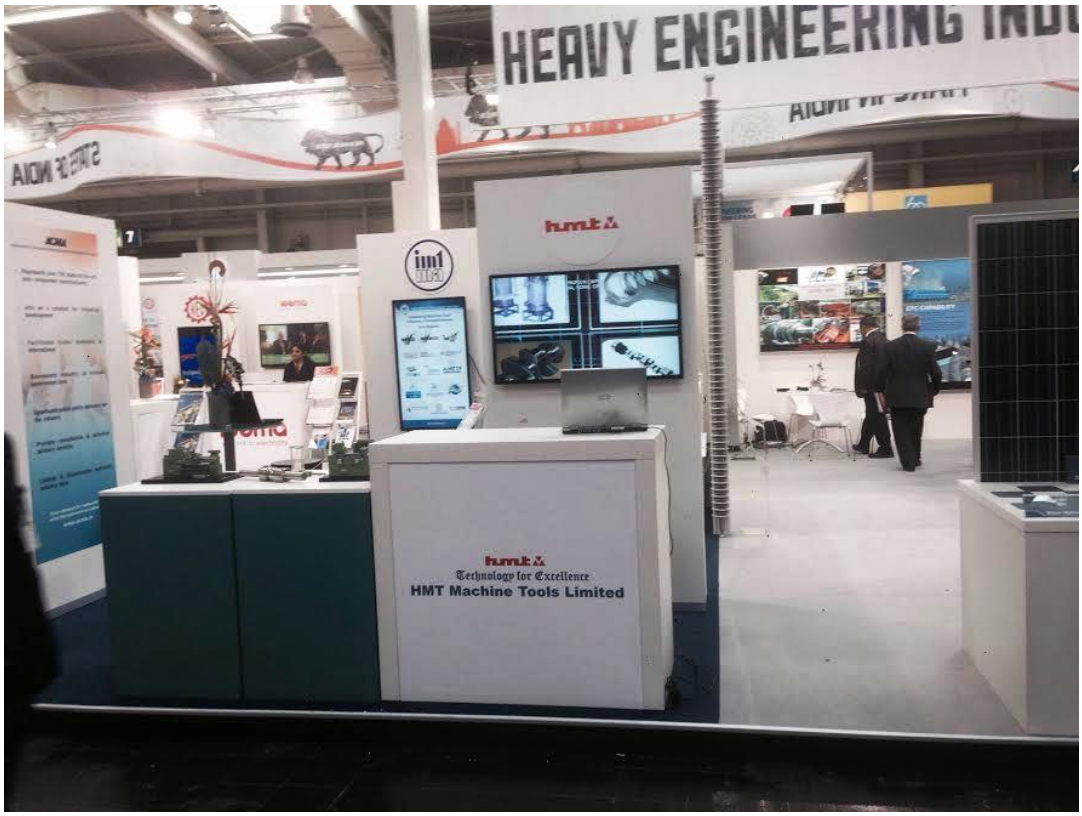


9.1 HMT Machine Tools Limited had set up an Exhibitor Stall at the Hannover Messe, displaying Special purpose Ball Screws of Stainless Steel and Models of some machines manufactured at HMT Machine Tools Complex at Bengaluru. Apart from this a Corporate Video depicting the manufacturing facilities providing Manufacturing Solutions – CNC and General Purpose conventional Machines for metal cutting and forming, Die casting Machines, Printing Machines, Food Processing machinery and Dairy equipment, Reconditioning and Retrofitting of Machine Tools, Tractors in wide range and Farm equipment and engineering components, etc.

The HMT Stall at the Exhibition had a stream of visitors on all days of the exhibition. The Company has generated a few serious contacts that are likely to be the business potential. Among these, the following interested visitors are noteworthy.

- **German system integrator with contacts in Auto and Aerospace industry in Europe.**
- **Medical electronics contacts in Germany**
- **US subcontractor having manufacturing requirement for Defence sector components**
- **Turkish Ball screw Bearing manufacturer looking to set up plant in India**
- **Large Indian Castings Company looking for expanding capacity.**



10. DHI Seminars at Hannover Messe 2015

SN	Date	Subject
1.	April 14, 2015	Make in India: Opportunities in Electronics and Electrical Sectors
2.	April 15, 2015	Heavy Engineering and Motion Drive & Automation
3.	April 16, 2015	Development of the Indian Market

10.1 Keynote address by Secretary (Heavy Industry) at the DHI seminar on "Make in India: Opportunities in Electronics and Electrical Sectors", April 14, 2015:-

10.1.1 The Indian electricals and electronics industries have been experiencing significant growth in the last few years. Presently, the domestic electrical equipment industry size exceeds US$ 25 billion with the share of generation equipment (boilers, turbines, generators - BTG) being about one-fourth and that of T&D being three-fourth of the total. The domestic EE industry contributed 1.4% to the nation's GDP in 2011-12 and 10.0% to the manufacturing GDP. The industry provides direct employment to about 0.5 million persons and indirectly to about 1 million persons. The entire value chain would account for a total employment of over 5 million people. The government's 'Make in India' initiative aims to further strengthen these sectors through goals such as realizing investments in the electronics segment and outputs in electric machinery to about USD 100 billion by 2022.

10.1.2 EEPC India, jointly with Department of Electronics & IT and Department of Heavy Industry under the Government of India and ZVEI (German Electrical and Electronics Manufacturers Association) had organized the seminar to discuss avenues to increase industry competitiveness through technology up-gradation and skill development, while focusing on enhancement of domestic manufacturing capabilities through joint ventures and technical collaboration. Electrical Seminar programme details...

10.1.3 Dr. Rajan Katoch, Secretary, Department of Heavy Industry of the Government of India and Mr. R S Sharma, Secretary, Department of Electronics & Information Technology and addressed the seminar on "Make in India: Opportunities in Electronics and Electricals segment", organised by EEPC India, the country's apex engineering export organisation and the lead agency for India's participation in the prestigious global engineering and technology fair.

10.1.4 Dr. Rajan Katoch, Secretary (Heavy Industry) informed that the German industry has opportunities to participate in creation of about 100,000 MW generation capacity in the short term. Vision 2022 for the Indian electrical equipment industry is to make India the country of choice for production of electrical equipment and reach an output of US$ 100 billion by balancing exports and imports. He also touched upon India's requirement to boost technical expertise in order to compete globally; and treat the absence of practices of technology customization and R&D expenditure in the industry. "A more profound technical collaboration between India and Germany will help the Indian electrical industry scale up in accordance with the rate at which the market is expected to grow", he said.

10.1.5 Secy HI also informed that India has embarked upon R&D to develop Advanced Ultra Super Critical Technology for power generation at a cost of about USD 250 million. He also recalled Germany's long term association with India. Companies like Siemens have been present in India for more than 125 years. On Make in India, he informed that various components of the campaign have been defined and are under implementation by various central ministries. The progress is monitored monthly.

10.1.6 Dr Katoch also informed that "Make in India' is a clarion call not only to Indian investors, but also the global community. The contours for Make in India have been defined and are monitored at the highest level. This campaign practically has created new wave of industrial opportunities in India. India has undertaken policy restructuring to enable present 16 -18% of Manufacturing share in GDP to 25% in short term as terms of the National Manufacturing Policy. He invited global business community to take advantage of Indian ecosystem to strengthen their global business.

10.1.7 The presentation and panel discussion witnessed a series of key insights made by both Indian and German government officials and business leaders including Mr Anupam Shah, Chairman, EEPC India, Mr. Ajit Manocha, Co-Founder m2i- International, USA, Dr. Gururaj Deshpande, Chairman Tejas Networks, USA, Mr. Hari Om Rai, CMD, Lava International, Mr. Soumitra Bhattacharya, Joint MD, Bosch Ltd., Mr. Klaus John, Head of International trade & Future Markets Department, ZVEI and Prof Dr. Christoph Kutter, Director, Fraunhofer Research Institution for Microsystems and Solid State Technologies EMFT. Key participants in the second panel discussions included Mr. T. S. Bhasin, Senior Vice Chairman, EEPC India, Mr. Kirsch Johannes, Senior Director International Relations, ZVEI, Mr. B P Rao, CMD, BHEL, Mr. Vishnu Agarwal, MD, Technical Associates, ltd, Mr. Rishi Khanna, MD, C&S Electricals, Mr. Sunil Mathur, MD, Siemens India Ltd. and Prof Dr Christoph Kutter. Dr. Joachim Richter, Project Finance International & Chairman of ZVEI Foreign Trade committee moderated the panel discussions.

10.2 <u>Keynote address by Secretary (Heavy Industry) at the DHI seminar on "Heavy Engineering and Motion Drive & Automation " on April 15, 2015:-</u>

10.2.1 In the last five years, heavy engineering exports registered a CAGR of 14.8 percent which is steered by the country's advanced engineering skills, established production lines, a thriving domestic industry and competitive costs. Capacity creation in sectors like infrastructure, power, mining, steel, consumer durables, automotive is driving demand in engineering sector. The industry enjoyed a growth of 4.3 percent in exports last year which complements the government's 'Make in India' campaign.

10.2.2 Addressing a seminar on hi-tech engineering at the ongoing Hannover Fair, Mr. Rajan Katoch, Secretary, Department of Heavy Industry, Government of India conveyed the 'Make in India' vision to augment India's position as a leading export hub. Talking about the 100 percent FDI facilitation for companies entering in the heavy engineering and capital goods sector, he said, "With the GDP of India growing at 7%, there is a need for capital goods in all areas where manufacturing is a focus at present. Motion, Drive and Automation (MDA) is the new center for technological development in the heavy industries area."

10.2.3 Secy HI Katoch further emphasized on the benefits of strategic collaborations between the two nations to achieve efficiencies and capabilities in the hi-tech industry and tackle competitive challenges of the emerging global scenarios. He also mentioned that a scheme has been recently launched to support the industry for technology modernization and acquisition. This scheme should prove to be a useful tool to boost Indo-German technology co-operation. He also appreciated the support of German companies for technology development in India. The German Government's help in setting up Tool Rooms and the presence of over 500 German companies in India was also appreciated by the Secretary.

10.2.4 He further shared that India's domestic production in heavy engineering equipment is currently at USD 31 billion. The imports are USD 18 billion, presenting excellent opportunities to German machinery builders to export to India. Indian exports are worth USD 840 million and this sector directly employs 1.4 million people and indirectly 7 times of the same. By the end of the 12th "Five Year Plan," the target is that the domestic production may be increased to USD 110 billion.

10.2.5 The presentation on "Engineering Sector - Results from study on Indo-German collaboration in high technology manufacturing was made by representative of Ernst & Young & ESMT Berlin. Mr. Thilo Brodtmann, Executive Director, VDMA, Mr. Ravi Sehgal, Vice Chairman, EEPC India, Mr Johannes T. Grobe of Bosch Rexroth India Ltd, Mr Rashmikant Joshi of Festo Controls, Mr Debasis Nandi of Lenze Mechatronics, Mr Martin Koffman of Voith, Mr PL Muthusekkar of Nord India, Mr Ulrich Ackermann of VDMA, Mr Michael Hoffmann & Mr Rajesh Nath of Fraunhofer also contributed as panellist. Mr S. Unnikrishnan of Thermax India moderated the discussions.

10.2.6 The large number of audience consisted of senior industry representatives. They participated in a proactive manner. The seminar concluded successfully with the message of unlimited potential in India for collaboration in Heavy Engineering and MDA.

10.3 Keynote address by Secretary (Heavy Industry) at the VDMA seminar on "Development of the Indian Market"

10.3.1 Secretary (Heavy Industry) delivered key note address at VDMA panel discussions on "Development of Indian Markets "at MDA Forum at hall No. 24 , stand B 26 of VDMA. The theme of his key note covered present industrial scene, Make in India and Skill development – opportunities for India and Germany. He lauded the VDMA's excellent work in Germany in representing machinery sector. He said that VDMA model is often sought to be emulated by industry associations round the globe. He expressed happiness that VDMA India is also working on the same lines in India.

10.3.2 He shared that according to the World Bank, India's industrial manufacturing GDP output in 2012 was 10th largest in the world on current US dollar basis ($239.5 billion), while the GDP of India is $2.04 trillion. The Indian industrial sector underwent significant changes as a result of the economic liberalisation in India economic reforms of 1991, which removed import restrictions, brought in foreign competition, led to the privatisation of certain government owned public sector industries, liberalised the FDI regime, improved infrastructure and led to an expansion in the production of fast moving consumer goods.

10.3.3 He further stated that Post-liberalisation, the Indian private sector was faced with increasing domestic as well as foreign competition, including the threat of cheaper Chinese imports. It has since handled the change by squeezing costs, revamping management, and relying on cheap labour and new technology. Industrial scene chain in India is dominated by small scale industries.

10.3.4 He said that Government of India has promulgated a special Act for small scale sector, providing incentives for to be in small scale, and assistance for inputs like capital, technology, marketing, exports, public purchases, and trainings etc, tool rooms. He also informed that The best success story is Indo-German tool room set up in collaboration with Government of Germany.

10.3.5 On Make in India, he said that it is a transformative charge brought about by the Government of India. The objective is employment, higher valve edition and further integration into global economy. Marketing of 'Make in

India' at this fair is a testimony of our intentions to share fruits of progress with our friends round the globe.

10.3.6 On ease of doing business in India he stated that India, like other developing countries, has economic eco-system: which is evolving with time Government efforts are on to address irritants in doing business. Already major steps such as raising FDI caps in Defence manufacturing and insurance have been taken. GST is on the anvil. Project investments beyond US $ 18.4 million enjoy 15 % incentive allowance. FDI and industrial licensing are totally free including expatriation of capital, employment of foreign managers and technician being very liberal. FDI investors enjoy definitive tax clarity through Advance Taxation Ruling Authority. India follows free market economy model. Yet Government of India invests heavily in industrial infrastructure. Delhi Mumbai Industrial Corridor is the beginning of creating country-wide industrial infrastructure garlanding. Similar approach has been adopted for high speed rail freight corridors. High speed rail network projects are at DPR stage. In short, Indian industrial growth will remain in double digits for quite some time. It will act as global grown engine.

10.3.7 Further he shared that more than 500 German companies are in India. Yet the potential is hardly exploited. He advised German companies to explore opportunities in India in their respective businesses or risk being dwarfed by their competitions from other countries.

10.4 The three seminars provided unique opportunities to convey Make in India message to many in the Fair. The idea of on the spot seminar proved to be very useful and worth considering in India.

11. Meetings of the DHI delegation led by Secretary (Heavy Industry):-

SN	Date	Meeting with
1	April 13, 2015	Deutsche Messse GmbH, Germany
2	April 14, 2015	VDMA, Germany
3	April 14, 2015	Nord Drive Systems, Germany
4	April 14, 2015	Fraunhofer , Germany
5.	April 15, 2015	Meeting with the Indian Ambassador
6.	April 15, 2015	EEPC India CEOs, Camp Hannover Messe

11.1 Meeting with M/s Deutsche Messe :

11.1.1 M/s Deutsche Messe is jointly promoted by the city of Hannover and the local State Government. The major objective of the companies is promoting industrial exhibition and related industrialization in Germany as well as in the world. M/s Deutsche Messe has a company in India called HMF India. This company organizes a number of events in India. These events are Indian versions of their major industrial fairs being organized in Hannover Messe. A Win India 2015 will be organized by HMF India in Pragati Maidan from 9-11 December 2015. Other major fairs being organized by them including CEBIT India, Industrial Supply India, etc.

11.1.2 Secretary (Heavy Industry) led the discussions with the team of M/s Deutsche Messe which includes Mr. Mehul Lanvers Shah, MD, Shri Annika Klar, Director (Global Fairs) and Shri Tushar Alekar, Commercial Director. During discussion M/s Deutsche Messe team informed that as neutral agency promotion industrialization they act as common platform for networking. Hannover Messe provides unique opportunities for networking to global companies for getting the latest technologies. The current event has focussed on Industry 4.0 and relating to technologies India being the partner country. The core themes include industrial automation and IT, energy and environment engineering, power to transmission and control, industrial subject contracting and production engineering, research and development & global business and markets. All the themes pertain to the various subjects of the Department.

11.1.3 M/s Deutsche Messe team also introduced their December 2015 exhibition in India. They said that this will be the 9th Edition in India. This time they are accepting more than 400 Indian and German companies to participate in the exhibition. The themes of the event are broadly the same as that of Hannover Messe and will specifically include hydraulic and pneumatic, electro mechanical transmission, automation, factory automation, material handling, logistics etc. In short, industry 4.0 components will be displayed in the exhibition.

11.1.4 M/s Deutsche Messe team has sought DHI help in all aspects of organizing Win 2015. They said that India being a partner country in Hannover Messe 2015 should be carried forward in partnerships including with HMF India activities in the country. Perhaps, a start could be made with Win India 2015 by HMF India and DHI together. Generally, they sought co-operation to design format of the events, road-show and other promotional measures for the events. Inauguration of the event by the Hon'ble Minister (HI&PE), joint technical

seminars, hiring of space by DHI, its PSUs, its associations and industrial units as well as they related activities. They were advised to send a formal proposal in this regard.

11.2 Meeting with VDMA, Germany.

11.2.1 Secretary (Heavy Industry) led a DHI delegation for a meeting with VDMA in their stall at Hall No. 17 Stand D-51. VDMA is a German counterpart of Indian Machine Tools Manufacturers' Association but much larger. VDMA consists of 38 associations representing individual engineering sectors. VDMA covers entire process chain of the capital goods industry from component to the plant, from system suppliers to system integrators and service provides. The association has portfolio of services, exhibition, events and resources for the development of growth of the industry in Germany. It even has a representative office in India in Kolkata. VDMA India presently works in 14 sectors including power transmission engineering, mining machinery, construction machinery, plastic machinery, food processing machinery, robotics, textile machineries and process plants.

11.2.2 During the meeting, subjects of common interest were discussed. One of the important joint activities relates to interaction with German companies in India to maximise their presence and activities in India and also involve them for technologies needed by the country. It was decided that a detailed meeting may be held with VDMA India in the Department to develop calendar of joint activities.

11.3 Meeting with M/s Nord Drives System, Germany

DHI delegation also visited M/s Nord Drives System, Germany. NORD was founded in 1965 Getriebebau Nord (GBN) has 36 subsidiaries, Euro 450 million turnover (2013 business year) and a team of 3,000 people spread in over 60 countries. Ms Jutta Humbert , CEO of M/s Nord briefed about their product range. Others present include S/Shri PL Muthusekkar – Managing Director, NORD India, Amit Deokule – Dy. General Manager-Sales, NORD India, BR Viswanath – Regional Manager – South, NORD India and Anil Leuva – Branch Manager- Ahmedabad, NORD India. Getriebebau NORD is one of the world's leading manufacturers of drive technology – for mechanical and electronic solutions. The range of products includes geared motors, motors, industrial gear units, frequency inverters, motor starters and frequency inverters for decentralised drive control. They also have a unit in Pune. The Indian unit is under expansion. Nord India has a production capacity of more than 24000 units per year and includes mechanical, electrical and electronic products in drive systems. Client spreads include almost every industry such as Steel and metals, infrastructure, cement, packaging, airports, pharma, chemical, pumps, effluent treatment, material handling, robotics, cranes, automobile, dairy, beverage, packaged food, agriculture, and many more HEC expressed their interest in the product range of Nord and decided to carry forward the contact.

11.4 Meeting with M/s Fraunhofer, Germany in Hall No 2, Hannover Messe:

11.4.1 Secretary (Heavy Industry) led DHI delegation to meet and see displays by Fraunhofer at Hall No. 2, Hannover Messe. Ms Anandi Iyer of Fraunhofer India and Mr Venkat Mohan of Fraunhofer made introductions to scientists and displays at Hall No. 2 stall of Fraunhofer.

11.4.2 Fraunhofer-Gesellschaft is a industrial applied Research utility founded in 1949. The research organization undertakes applied research that drives economic development and serves the wider benefit of society. Its services are solicited by customers and contractual partners in industry, the service sector and public administration. At present, the Fraunhofer-Gesellschaft maintains 67 institutes and independent research units. The majority of the more than 24,000 staff are qualified scientists and engineers, who work with an annual research budget of 2 billion euros. Of this sum, more than 1,7 billion euros is generated through contract research. More than 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. Product range include Environmental compatibility assessments for power engineering Feasibility studies for power engineering Other certificates and studies for power engineering Other innovative technologies. It also has an Indian presence as liaison office.

11.4.3 Fraunhofer briefed the delegation about light weighting of engineering sector based on moulds. The technology is yet at the development stage , but has potential. Reducing weight of a machine will also result in less energy in manufacture and use. They also exhibited Industry 4.0 related technologies. It was noticed that Fraunhofer has vast portfolio, which is of use to India. It was decided to continue to communicate on collaboration possibilities.

11.5 Meeting with the Indian Ambassador:

Secretary(HI) and JS (VS) met with the Indian Ambassador at the India Pavilion and discussed agenda of common interest in view of the forthcoming visit of Chancellor Merkel to India towards the end of the year. The Ambassador advised that BHEL, ARAI and HEC may develop technology related MoUs with M/s Fraunhofer quickly, which could be signed during the visit of the Chancellor to India. Interactions with M/s Fraunhofer to set up some institutes in India may also continue. He also requested DHI to keep the Indian Embassy in loop on the developments. It was decided to continue to hold communication on a fruitful visit of the Chancellor Merkel to India.

11.6 Meeting with EEPC India CEOs, Camp Hannover Messe:

Secretary (Heavy Industry) also met with EEPC CEOs. The Messe participation was reviewed. Participants were of the opinion that the tempo generated by India publicity should be maintained by organizing more activities in India and Germany in time to come. Also export of capital goods sector should be promoted by enhanced participation in specialized fairs. Indian International fairs in capital goods sub-sectors should also be promoted in its overseas market destinations. In fact, an integrated action plan to promote capital goods exports should be developed. EEPC India requested the Secretary to spare some time in India to carry forward the interactions.

12. DHI delegation visit to Hannover Messe exhibition:

SN	Date	Organization
1.	April 14, 2015	Schunk
2.	April 14, 2015	Kuka
3.	April 15, 2015	Electric Mobility
4.	April 15, 2015	3-D Printing Technologies
5.	April 16, 2015	Fraunhofer –IFAM , Bremen

12.1 Visit to Schunk, Germany, Hall No. 17, Hannover Messe. Representative of VDMA India took the delegation to the stalls of M/s Schunk and M/s Kuka. Both are the leading Germany companies working at the cutting edge of robotics including industrial robotics, advanced manufacturing techniques, digitize factories and other advanced topics relating to Industry 4-0. The exhibit of robotics hand by Schunk were the talk of the exhibition. Established in 1945, now more than 2,300 employees and presence in more than 50 countries all over the world , M/s SCHUNK specializes in clamping technology. In the Hannover Messe , two products cauth the eyes of the visitors.A robotic hand and an Care-O-bot 4, the futuristic butler designed by the Fraunhofer IPA. The company is present in India through a representative office offering Chuck jaws, Gripping Systems, Lathe Chucks, Special Hydraulic Expansion Technology, Stationary Workholding and Toolholding Systems. The DHI delegation was apprised of the various contours of the clamping technologies.

Servo-electric 5-Finger Gripping Hand SVH
The first Series Production 5-Finger Hand production version of the anthropomorphic SCHUNK 5-finger hand grips nearly as perfectly as the human hand. The electronics are completely integrated into the wrist, which allows the 5-finger hand to simulate nearly all human hand movements.

12.2 Visit to Kuka, Germany, Hall No. 17, Hannover Messe. The DHI delegation also visited Kuka stall. They had also displayed latest industrial robotic technologies. Volleyball playing robots of Kuka were also popular amongst the visitors. The KUKA Roboter GmbH, with its headquarters in Augsburg, is a member of the KUKA Aktiengesellschaft and ranks among the world's leading suppliers of industrial robots. Core competencies are development, production and sale of industrial robots,

controllers and software. The company is the market leader in Germany and Europe and the number three in the world. KUKA Roboter GmbH employs about 3400 people worldwide. In 2013, sales totaled 754,1 million Euro. By 28 in Europe, America and Asia. Industrial robots by the company come in the range of Six-axis robots , Palletizers, Cleanroom robots, Heat-resistant robots, Welding robots, Press-to-press robots, Shelf-mounted robots and High-accuracy robots. They are in India too. KUKA Robotics (India) is part of the worldwide operating KUKA Robot Group. KUKA Robotics (India) Private Limited was incorporated in India in May 2006. With Indian operations headquartered in Gurgaon, KUKA India has a state of the art Service and Training centre in Pune. Today KUKA India's key clientele include most of the major automobile and other engineering as well as non-engineering companies. The DHI delegation was given a visual tour of the Kuka technologies.

12.3 Visit to Hall No. 27, Hannover Messe on Electric Mobility- MobiliTec is a Fair at Hannover Messe for Hybrid and Electric Powertrain Technologies, Mobile Energy Storage and Alternative Mobility Solutions. The major subjects covered this year were Hybrid & electric power , transmission systems, Power electronics, Storage technologies, Power supply and charging infrastructure. This year more than 35,000 business visitors saw about 200 companies exhibiting their products and services in Hall No. 27, where Mibilitec was situated. The DHI delegation took special interest in a number of charging technologies on display.

12.4 Visit to Hall No. 7 on Additive Manufacturing -3-D Printing technologies

The Additive Manufacturing Association coordinated presence of exhibitors and a Forum in Hall NO. 7, at Hannover Messe on the subject. The Additive Manufacturing Association within VDMA deals with 3D printing technologies for industrial applications. It was founded in the early summer of 2014. The current 65 members represent the entire value chain of additive manufacturing: machine manufacturers, suppliers, users, service providers and research institutes. This international Association promotes the development of additive manufacturing and process chains with a decidedly industrial scope. It may be recalled 3D printing or additive manufacturing is a process of making three dimensional solid objects from a digital file. The creation of a 3D printed object is achieved using additive processes. In an additive process an object is created by laying down successive layers of material until the entire object is created. There were two major 3-D printing technologies on display:- plastic powder based and metal powder based. A Taiwanese company quoted Euro 1500 for a simple 3-D plastic based 3-D printer. While a German company offered 3-D printer of metal powder based in more than Euro 2,73,000/- DHI delegation undertook an impromptu visit of the Hall No. 7 and witnessed the technology of future. Voxeljet stand was very popular.

12.5 Visit to Fraunhofer –IFAM , Bremen: SHI led a delegation of DHI, BHEL, HEC and ARAI officials to visit IFAM, Bremen , which specialises in joining dissimilar materials required for light weighting in automotive and industrial application. Fraunhofer-Gesellschaft is the largest organization for applied research in Europe. The Fraunhofer Society was founded in Munich on March 26, 1949 by representatives of industry and academia, the Government of Bavaria, and the Federal Republic of Germany. It is named after Joseph von Fraunhofer who, as a scientist, engineer and entrepreneur, is said to have superbly exemplified the goals of the society.

12.5.1 The Fraunhofer Society (German: Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e. V. — "Fraunhofer Society for the advancement of applied research", is a German research organization with 67 institutes spread throughout Germany, each focusing on different fields of applied science (as opposed to the Max Planck Society, which works primarily on basic science). It employs around 23,000 people, mainly scientists and engineers, with an annual research budget of about €1.7 billion. Some basic funding for the Fraunhofer Society is provided by the state (the German public, through the federal government together with the states or Länder, "owns" the Fraunhofer Society), but more than 70% of the funding is earned through contract work, either for government-sponsored projects or from industry.

12.5.2 The organization has seven centers in the United States, under the name "Fraunhofer USA", and three in Asia. In October 2010, Fraunhofer announced that it would open its first research center in South America. Fraunhofer UK Research Ltd was established along with the Fraunhofer Centre for Applied Photonics, in Glasgow, Scotland, in March 2012.

12.5.3 The Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM carries out research and development work in the areas of Shaping and Functional Material and Adhesive Bonding Technology and

Surfaces. The institute has almost 600 employees, with more than 90 percent of the workforce engaged in scientific and technical work. Fraunhofer IFAM has, for its services, outstanding office, laboratory, and pilot plant facilities with state-of-the-art equipment.

12.5.4 The institute's two divisions, "Shaping and Functional Materials" and "Adhesive Bonding Technology and Surfaces" are amongst the largest independent research organizations in Europe. Fraunhofer IFAM is part of the non-profit Fraunhofer-Gesellschaft, an association of over 60 independent research establishments.

12.5.5 Fraunhofer has a representative Office India. The Fraunhofer Representative Office in Bangalore officially represents the Fraunhofer-Gesellschaft in India and bridges between Indian customers and Fraunhofer scientists. Fraunhofer India works with 30 of the 50 leading companies in India and, last year, Indian companies had 1.3 million euros worth of research projects with various Fraunhofer institutes.

12.5.6 Fraunhofer, Germany has 67 institutes and research units as listed below:-

Institute	*Location*
Algorithms and Scientific Computing	Sankt Augustin
Applied Information Technology	Sankt Augustin
Applied Optics and Precision Engineering	Jena
Applied Polymer Research	Potsdam
Applied Solid State Physics	Freiburg
Applied and Integrated Security	München/Garching
Biomedical Engineering	Sankt Ingbert
Building Physics	Stuttgart
Building Physics – Holzkirchen branch of the institute	Holzkirchen
Cell Therapy and Immunology	Leipzig
Central and Eastern Europe	Leipzig
Ceramic Technologies and Systems	Dresden
Ceramic Technologies and Systems Hermsdorf branch of the institute	Hermsdorf
Chemical Technology	Pfinztal (Berghausen)
Communication, Information Processing and Ergonomics	Wachtberg
Computer Graphics Research	Darmstadt
Computer Graphics Research – Rostock branch of the institute	Rostock
Digital Media Technology	Ilmenau
Electronic Nano Systems	Chemnitz
Embedded Systems and Communication Technologies	München
Environmental, Safety and Energy Technology	Oberhausen
Environmental, Safety, and Energy Technology –	Sulzbach-Rosenberg

Institute	*Location*
Sulzbach-Rosenberg branch of the institute	
Experimental Software Engineering	Kaiserslautern
Factory Operation and Automation	Magdeburg
High Frequency Physics and Radar Techniques	Wachtberg
High-Speed Dynamics, Ernst-Mach-Institut	Freiburg
High-Speed Dynamics, Ernst-Mach-Institut – Efringen-Kirchen branch of the institute	Efringen-Kirchen
Industrial Engineering	Stuttgart
Industrial Mathematics	Kaiserslautern
Information Center for Planning and Building	Stuttgart
Integrated Circuits	Erlangen
Integrated Circuits – Design Automation Division EAS	Dresden
Integrated Systems and Device Technology	Erlangen
Intelligent Analysis and Information Systems	Sankt Augustin
Interfacial Engineering and Biotechnology	Stuttgart
Laser Technology	Aachen
Machine Tools and Forming Technology	Chemnitz
Machine Tools and Forming Technology Dresden branch of the institute	Dresden
Manufacturing Engineering and Automation	Stuttgart
Manufacturing Technology and Advanced Materials – Bonding Technology and Surfaces	Bremen
Manufacturing Technology and Advanced Materials – Branch Lab Powder Metallurgy and Composite Materials	Dresden
Manufacturing Technology and Advanced Materials – Shaping and Functional Materials	Bremen
Marine Biotechnology	Lübeck
Maritime Logistics and Services	Hamburg
Material Flow and Logistics	Dortmund
Material and Beam Technology	Dresden
Mechanics of Materials	Freiburg
Mechanics of Materials – Halle branch of the institute	Halle
Medical Image Computing	Bremen
Microelectronic Circuits and Systems	Duisburg
Microsystems and Solid State Technologies	München
Molecular Biology and Applied Ecology	Schmallenberg
Molecular Biology and Applied Ecology – Aachen branch of the institute	Aachen
Non-Destructive Testing	Saarbrücken
Open Communication Systems	Berlin
Optronics, System Technologies and Image Exploitation	Karlsruhe
Optronics, System Technologies and Image Exploitation – Advanced System Technology (AST) branch of the institute	Ilmenau
Optronics, System Technologies and Image Exploitation – Ettlingen branch of the institute	Ettlingen

Institute	*Location*
Organic Electronics, Electron Beam and Plasma Technology	Dresden
Photonic Microsystems	Dresden
Physical Measurement Techniques	Freiburg
Polymeric Materials and Composites	Teltow
Process Engineering and Packaging	Freising
Production Systems and Design Technology	Berlin
Production Technology	Aachen
Reliability and Microintegration	Berlin
Secure Information Technology	Darmstadt
Secure Information Technology Sankt Augustin branch of the institute	Sankt Augustin
Silicate Research	Würzburg
Silicon Technology	Itzehoe
Software and Systems Engineering	Dortmund
Solar Energy Systems	Freiburg
Structural Durability and System Reliability	Darmstadt
Surface Engineering and Thin Films	Braunschweig
Systems and Innovation Research	Karlsruhe
Technological Trend Analysis	Euskirchen
Telecommunications, Heinrich-Hertz-Institut	Berlin
Toxicology and Experimental Medicine	Hannover
Transportation and Infrastructure Systems	Dresden
Wind Energy and Energy System Technology	Kassel
Wind Energy and Energy System Technology	Bremerhaven
Wood Research, Wilhelm-Klauditz-Institut	Braunschweig

12.5.7 Secretary (Heavy Industry) led the Department in discussions with the Fraunhofer IFAM. The Representative of the German organization informed about Fraunhofer Society, its structure, history, way of working and presence in Germany and the rest of the World including India. Details about expertise of IFAM were also shared. Lab visit was also undertaken. Possibilities of setting up similar facilities in India were also discussed. BHEL, HEC and ARAI expressed project wise collaboration with Fraunhofer –IFAM. It was decided to continue to hold dialogue in Germany as well as in India. Embassy of India , Berlin will also be kept in loop, so that the expertise of Fraunhofer institutes could be fully realized by the country.

Rotor for an electric motor with bonded magnet

13. MoUs signed by DHI PSUs at Hannover Messe 2015

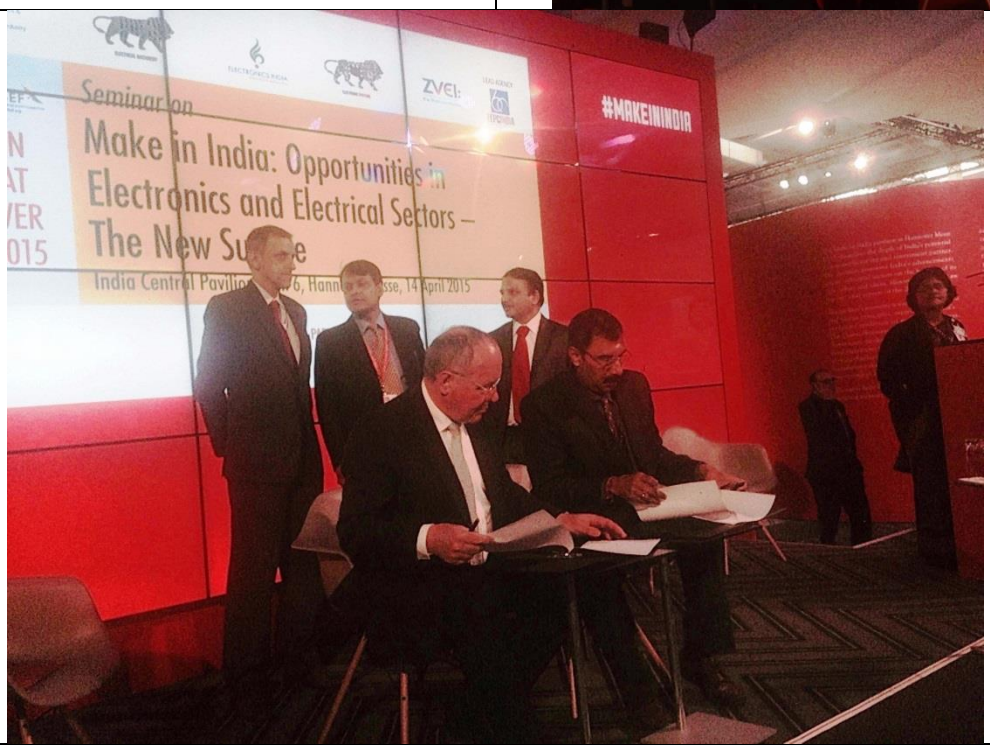
SN	PSU
1.	BHEL (2 nos)
2	HMT (3 nos)
3.	REIL (one)
4	IL (one)
5.	HEC (2 nos)
6.	IEEMA (2 nos)
7.	EEPC India (one)

13.1. BHEL: The PSU signed MoU with INTMA Russia, a leading Engineering Procurement and Construction (EPC) contractor to set up a gas-based power project in Kazakhstan and Russia. Another MoU was signed with Steel Mont of the United Kingdom which has its core activities in international trading, trade-finance and project finance. Steel Mont will incorporate execution of proposed modernization of thermal power stations for PJSC Centroenergo, Ukraine. Secretary (Heavy Industry), Joint Secretary (Vishvajit Sahay) and other members of Indian delegation witnessed the signing.

13.2 HMT: HMT Limited was able to conclude three (3) MOUs during Hannover Messe 2015 with the following companies to enhance the business:

- FT Machines, Germany – for manufacturing flow forming machines in India
- NUM AG, Switzerland – for pan-India service of NUM products
- EniT GmbH, Germany – for promoting system integration solutions in Europe.

Besides, HMT had interaction with professionals from Fraunhofer for possible MoUs to develop the products and to address the design verifications through analytical methods. Secretary (Heavy Industry), Joint Secretary (Vishvajit Sahay) and other members of Indian delegation witnessed the signing.



13.3 REIL: The PSU signed an MoU with MILACRON Electronic Limited Bulgaria, Instrumentation Limited for transfer of technology to manufacture in India Milk analysers. Secretary (Heavy Industry), Joint Secretary (Vishvajit Sahay) and other members of Indian delegation witnessed the signing.

13.4 IL, Kota: The PSU signed an MoU with Kauer Engineering Germany. The MoU provides for transfer of technology to manufacture specified control valves in India. Secretary (Heavy Industry), Joint Secretary (Vishvajit Sahay) and other members of Indian delegation witnessed the signing.

13.5 HEC: The PSUs signed two MoUs at the Hannover Messe 2015. The MoUs were signed in the presence of Shri Rajan Katoch, Secretary, Department of Heavy Industries, Shri Vishvajit Sahay, Joint Secretary, Department of Heavy Industry, and captains of Indian and foreign companies. The first MOU was signed with Kirow Adelt GmBh of Leipzig for manufacture of Railway Cranes. Kirow is the market leader of Railway cranes in the world. HEC has signed the understanding of manufacture and supply of cranes to Indian market particularly to Indian Railways and Steel Authority of India Ltd. These cranes are multipurpose cranes which are used for switch construction, track and bridge construction and accident recovery. HEC signed the MoU for manufacture of railway cranes for lifting capacities ranging from 25tonnes to 160 tonne. This will give HEC an advantage to offer a complete portfolio of cranes apart from custom made EOT cranes which HEC is already making for different customers. HEC also signed the second MOU for promoting Vocational education and Training with Europe India foundation for excellence of Belgium This will help HEC to undertake, finance, co-produce research, education and other activities to promote the idea of skill development in the state of Jharkhand by developing HEC Training Institute (HTI) as a centre of excellence.

13.6 IEEMA: Indian Electrical and Electronics Manufacturers Association (IEEMA) signed two MoUs at Hannover Messe 2015. One with ZVEI, which is an identical counterpart association of IEEMA in Germany and the second with European Business and Technology Centre (EBTC). The MoU with ZVEI was signed by Mr Vishnu Agarwal President IEEMA and Dr. Klaus Mittelbach,CEO, German Electrical & Electronics Manufacturers' Association (ZVEI). And with EBTC by Mr Sunil Misra, Director General , IEEMA and Mr Joerg Uehlin, Head of Operations, EBTC . These MoUs were signed in the presence of Hon'ble Minister of State for Commerce and Industry, Smt Nirmala

Sitharaman. Mr Rajeev Kher, Secretary, Ministry of Commerce and Mr Ravi Capoor, Joint Secretary, Department of Commerce were also present. Both the MoUs are expected to facilitate mutual exchange of business between India and Germany and benefit IEEMA Membership in future.

13.7 EEPC India: Engineering Export Promotion Council of India signed MoU with BVMW – the German Association of Small and Medium Sized Businesses. The MoU will provide platform to promote bilateral trade and investments between the two countries. The scope of MoU covers exchange of information on trade & investment opportunities, supporting bilateral visits of delegations and business missions and supporting organizing trade fairs / exhibitions in both the countries.

14. Recommendations: The positive response received from the participation leads to upgradation of scope and manner of next participation. Highlights of which should be:-

i. **Next time the Department should hire at least 500 sq mts (about double of this time) and should put up greater show by heavy Engineering companies under the banner of their associations.**

ii. **The theme should be "Make in India : Next Steps in Manufacturing Technologies"**

iii. **More seminars and one to one meetings should also be organized on the theme – sub-divided in specific subjects like advanced manufacturing, 3_D printing, electric mobility, Solar Energy technologies etc.**

iv. **The Department should designate EEPC from now to plan for the next event.**

v. **Brand Consultants and Media Agencies should also be appointed.**

vi. **Each of the Association should be given responsibility to organize one Forum at the DHI space, which will showcase opportunities for business and technology transfer.**

vii. **Stall Designing should be better than this time, at par with Siemens and other leaders.**

viii. **The Department should zero down to ten or so technologies and should send 3-member delegation for each of the technology to do profiling at the Fair and for that matter in other fairs too.**

ix. **DHI PSUs should be given specific targets from the exhibition.**

x. **Pre-event publicity , road shows and events should be organized through EEPC , VDMA , Deutsche Messe and EoI, berlin.**

xi. **Dialogue with Fraunhofer should be continued to set up similar industrial products and technologies development facilities in India.**

xii. **The Department should extensively support VDMA as well Deutsche Messe for organizing WIN 2015 in December 2015 at Pragati Maidan, New Delhi.**

xiii. **DHI/ representative agency should sign an MoU with Deutsche Messe, VDMA and Indo German Chamber of Commerce during the forthcoming visit of the German Chancellor to India later in the year. The MoU could define roles and various components in Hannover Messe and other events in India and Germany to uplift Indian manufacturing sector as important step on "Make in India". During the same visit, DHI could organize Indo-German CEOs Forum on Manufacturing technologies.**

15. In conclusion, the visit provided exposure to latest technologies in Industry 4.0 and also helped showcase Make in India opportunities to Germany and the rest of the

World in the Capital Goods and Automotive sector. The seven MoUs open the way for the CPSEs to get superior technology and skills. Indian exhibitors in the pavilion were also exposed to the latest technologies relating to industry 4.0 – theme of the fair. Secretary, DHI delivered three key note addresses at seminars on Opportunities in India in electrical industry, Heavy Engineering Industry and Motion Drive Automation. The DHI delegation led by the Secretary also met VDMA, Fraunhofer, NORD and a number of other German companies. Demonstration of 3D-printing technologies, robotics and electrical modalities technologies were also witnessed by the DHI delegation. The specific achievements include the following:-

(i) **Working with Deutsche Messe to expand window of exposure of Indian companies to latest manufacturing technologies i.e. Industry 4.0,**

(ii) **Working with Deutsche Messe for supporting their exhibition in India in December 2015.**

(iii) **Working with VDMA to support German companies in India for "Make in India.**

(iv) **Working with Fraunhofer to set up a Fraunhofer like institute in India.**

(v) **Fraunhofer and BHEL, HEC and ARAI are working to develop understanding on specific technology projects.**

(vi) **Signing of seven MoUs by DHI PSUs, namely, BHEL with INTMA Russia, Rajasthan Electronics and Instrumental Limited with MILACRON Electronic Limited Bulgaria, Instrumentation Limited with Kauer Engineering Germany, HMT with NUM Controls, Switzerland as well as ENIT Germany, HEC with KIROW ADELT Germany as well as Europe India Foundation for Excellence, Belgium.**

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