India: The Emerging Defence Manufacturing Hub

DEFEXPO 18
INDIA
11-14 APRIL 2018 CHENNAI

OUTCOME REPORT

Department of Defence Production
Ministry of Defence
Government of India
<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>Title</th>
<th>Pg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inaugural Event</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Business Seminars &amp; other events</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>MoUs and ToTs</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>Business Participation</td>
<td>23</td>
</tr>
<tr>
<td>5</td>
<td>Public Participation</td>
<td>26</td>
</tr>
<tr>
<td>6</td>
<td>Media Coverage</td>
<td>31</td>
</tr>
</tbody>
</table>
The 10th edition of DefExpo was held at Tiruvindhaturai, Kancheepuram district on the East Coast Road near Chennai, Tamil Nadu from April 11-14, 2018.

DefExpo 2018, in a departure from earlier editions, undertook to project India’s defence manufacturing capabilities to the world, as reflected in the tagline for the DefExpo 2018 ‘India: The Emerging Defence Manufacturing Hub’.

The DefExpo 2018 was formally inaugurated on April 12, 2018 by the Hon’ble Prime Minister Sh. Narendra Modi. The inauguration was graced by His Excellency Governor of Tamil Nadu Shri Banwari Lal Purohit, Hon’ble Raksha Mantri Smt Nirmala Sitharaman, Hon’ble Chief Minister of Tamil Nadu Shri Edappadi K. Palaniswami, Hon’ble Deputy Chief Minister of Tamil Nadu Shri O. Panneerselvam, Hon’ble Raksha Rajya Mantri Dr. Subhash Ramrao Bhamre among many others. Several Central and State Ministers, Ministers and Ambassadors from various participating countries also were present.

Admiral Sunil Lanba, Chief of Naval Staff, Air Chief Marshal B.S. Dhanoa, Chief of Air Staff, General Bipin Rawat, Chief of Army Staff, Shri Sanjay Mitra, Defence Secretary, Dr. Ajay Kumar, Secretary Defence Production, Dr. S Christopher, Secretary, DRDO, Shri Sunil Kohli, Secretary (Defence Finance) also attended along with senior officials from Ministry of Defence and other Government Departments.

Over 6000 invitees and participants of DefExpo participated in the inaugural event at the venue.

In addition, live audiences from 29 locations across the world participated in the inaugural event through video-conferencing set up by NIC in Indian Missions in China, Australia, Pakistan, Japan, Greece, Kenya, etc.

Innovations for Defence Excellence (iDEX) a scheme of Department of Defence Production, formulated in collaboration with Start Up India and Atal Innovation Mission, with the objective of bringing Start-ups to solve problems of defence production, innovate new technologies required by defence forces and reduce dependence on imported technology was launched by the Hon’ble Prime Minister on this occasion.

Hon’ble Prime Minister also inaugurated the “DefExpo India Pavilion” which showcased the combined strength of India’s public sector and private sector in Defence production with more than 100 indigenously manufactured products like Aakash Missile Systems, Brahmos, ATAG, Wheeled APC, etc. along with an immersive light and sound show.
• This was the first time that the DefExpo had set up an India Pavilion to project its capabilities in defence manufacturing.

• The DefExpo 2018 also featured, for the first time, a combined live demonstration of indigenously manufactured aero, naval and land systems. The aero systems display was with the help of Hindustan Aeronautics Ltd., the naval show by Indian Navy and the land systems show by the DRDO. Hon’ble Prime Minister also witnessed the live demonstration of indigenously manufactured Aero, Naval and Land Systems.

August presence of Hon’ble PM, Hon’ble Governor of Tamil Nadu, Hon’ble RM, Hon’ble CM of Tamil Nadu, Hon’ble Dy CM of Tamil Nadu, Hon’ble RRM and other Dignitaries at the Inaugural event

Hon’ble PM Inaugurating the event

Hon’ble PM witnessing live demonstration

The India Pavilion
Date April 11, 2018
Seminar Title: **Linking India to the Global Defence & Aerospace Supply Chain**
- Time: 1000-1130 hrs
- Organized by: US India Business Council
- Smt Nirmala Sitharaman, Hon’ble Raksha Mantri was the Chief Guest.
- Over 200 business delegates participated.

Seminar Title: **Bolstering ‘Make in India’ in Defence Sector:**
- Time: 1100-1415 hrs
- Organized by: ASSOCHAM.
- Smt Nirmala Sitharaman, Hon’ble Raksha Mantri, was the Chief Guest in presence of Dr Subhash Bhamre Hon’ble Raksha Rajya Mantri. Among others, Gen Bipin Rawat, Chief of Indian Army, Adm Sunil Lanba, Chief of Indian Navy also addressed.
- Over 300 business delegates participated.
A report titled “Creating a level playing field to facilitate ‘Make in India’ in Defence” was released by ASSOCHAM on the occasion.

Two sessions on following topics were also conducted:
- Enhancing Private Investment for Defence Sector - Session 1
- Wassenaar Arrangements: India’s Export Potential –Session 2

Seminar Title: **Perspective on Technologies for Armed Forces**
- Time: 1200- 1400 hrs
- Organized by: IIT Madras
- Lt Gen PR Shankar (Retd), Faculty, IIT Madras addressed among others.
- Over 300 students and business delegates participated.

Seminar Title: **Offsets: Way Forward towards a win-win framework**
- Time: 1430- 1530 hrs
- Organized by: FICCI
- Dr. Ajay Kumar, Secretary Defence Production, Government of India was the Chief Guest.
- Over 200 business delegates participated.
Date April 12, 2018
Seminar Title: Defence Industrial Corridors: Unleashing the Start-ups and MSMEs Ecosystem
• Time: 1430-1600 hrs
• Organized by: FICCI
• Gen Bipin Rawat Chief of Army Staff was the Chief Guest
• Over 300 delegates attended the seminar.

Seminar Title: Tamilnadu – The destination for Defence Manufacturing – Thriving Ecosystem
• Time: 1430-1730 hrs
• Organized by: Tamilnadu Industrial Development Corporation (TIDCO), Government of Tamilnadu
• Hon’ble Minister of Industries, State Govt of Tamil Nadu Shri MC Sampath, was the Chief Guest
• 250 delegates attended the seminar

Seminar Title: Defence Production Policy & State Defence Industrial Policies: A special Session with the Policy Drivers
• Time: 1500-1630 hrs
• Organized by: Society for Indian Defence Manufacturers (SIDM), CII
• Dr Ajay Kumar, Secretary Defence Production, Government of India was the Chief Guest. Representatives from Government of UP, Tamilnadu, Telengana, among others spoke.
• Over 200 delegates participated.

Seminar Title: Changing Head Winds to Tail winds: Enablers for Enhancing Foreign Direct Investment (FDI)
• Time: 1500-1600 hrs
• Organized by: Society of Indian Defence Manufacturers (SIDM), CII.
• Dr Subhash Bhamre, Hon’ble Raksha Rajya Mantri was the Chief Guest
• Over 300 delegates participated.

Seminar Title: Designing Solutions to Battlefield Necessities: The Warrior Speak
• Time: 1600-1730hrs
• Organized by: Society of Indian Defence Manufacturers (SIDM), CII.
• Smt Nirmala Sitharaman, Hon’ble Raksha Mantri was the Chief Guest.
• Felicitation of Women Achievers was also organized by SIDM.
• Smt Nirmala Sitharaman Hon’ble RM felicitated the Woman achievers.
OTHER EVENTS

India Russia Military Industrial Conference
April 13, 2018

- The third India-Russia Military Industrial Conference was held on the side-lines of DefExpo 2018.
- Indian delegation was led by Dr Ajay Kumar, Secretary (Defence Production), Government of India while Mr. Oleg Ryazantcev, Deputy Minister of Industry and Trade of Russian Federation led the Russian side.
- Around 75 Indian defence sector manufacturing companies and 28 Original Equipment Manufacturers (OEMs) from Russian industry participated in the conference.
- Deliberations during the conference were aimed to focus on needs for improvement of after-sales support of Russian origin defence equipments.
- 3 Breakout sessions held focusing on Land, Naval & Aerospace Sectors
- 7 MoUs have been signed for B2B collaboration under the India-Russia Military Industrial Conference Framework which was set up to promote “Make in India” in defence with Russian cooperation in 2017.

National Level Open Challenge for Start-ups
“Solution to Problem DEFEXPO 18”

- An Open challenge competition “Solution to Problem” started on March 26, 2018.
- Last date for response: April 8, 2018
- Real life problems of defence sector were posed. These problems were
  a. Ejection Mechanism for Helicopters
  b. Nap of the Earth / Valley Flying using auto pilot due to GPS signal corruption in hilly areas / high rise buildings
  c. Location based tactical messaging collaboration platform
  d. Auto Identification of Drones/UAV
• Number of responses received: 492
• An eminent technical jury comprising of representatives of HAL, under the chairmanship of Shri Mahesh V, Executive Director HAL evaluated the responses and results declared on April 10, 2018.
• Number of Winners: 08
• Winners were recognized by Smt. Nirmala Sitharaman, Honble Raksha Mantri on April 13, 2018 in a ceremony which included delegates and enthusiastic participants.

DRDO Transfer of Technology Event
April 11, 2018

DRDO organized a Transfer of Technology Mela in which some of their frontier technologies were distributed to industry partners from public sector and private sector.

10 technologies were transferred in an event graced by Smt. Nirmala Sitharaman, Hon’ble Raksha Mantri in the presence of Dr. Christopher, Secretary, DRDO.

Valedictory Day: Floral Tributes to Dr. B.R. Ambedkar and Greetings on Tamil New Year Day
April 14, 2018

• On the valedictory day of the event, April 14, 2018, DefExpo paid tributes to father of the Indian Constitution Dr. B.R. Ambedkar on the day of his birth anniversary.
• DefExpo also greeted all participants and Tamil people on Tamil Puthandu (New Year).
• His Excellency Governor of Tamilnadu Shri Banwari Lal Purohit was Chief Guest for the event held at DefExpo pavilions. His Excellency, the Governor also gave away certificates to the young volunteers and NCC cadets who had bravely offered their services for the DefExpo.
Bilateral Meetings of Ministry of Defence
April 11-14, 2018

• DefExpo provided great opportunity for bilateral meetings with international and national delegations participating in the event.
• Over 50 such bilateral meetings were held at various levels including by Hon’ble Raksha Mantri, Hon’ble Rajya Raksha Mantri, Defence Secretary, Secretary (Defence Production), and with other senior officials of the Ministry
• Bilateral meeting with countries viz US, UAE, Israel, UK, Russia, France, Philippines, Finland, Czech Republic, Ukraine etc. were held.

MoUs by DPSUs
Bharat Electronics Ltd. Bengaluru and Spetstechnoexport, Ukraine – for
• Modernization and localization of the production of components for armored vehicles.
• Creation of a new a tank for the needs of the Indian Defense Ministry.
• The modernization of Radar and Air Defense Systems produced by the erstwhile Soviet Union.
• Joint research and engineering development in the field of sonar and radars directions.

MoUs and ToTs

As per details reported thus far, the salient MoUs and Transfer of Technology agreements are as follows. Some B2B agreements signed between parties may not have been reported yet and therefore the number is likely to go up.

Overview

- Defence Public Sector Undertakings - 16
- India- Russia B2B MoUs - 07
- B2B MoUs - 07
- ToTs - 10
- Total - 40

MoUs SIGNED DURING DEFEXPO 2018
• Bharat Electronics Ltd. Bengaluru and L&T Defence - To address the emerging opportunities in domestic market leveraging the initiatives like Make in India and to work towards export of Defence Products and Systems.

• Bharat Electronics Ltd. Bengaluru and Mahindra Defence Systems Ltd - To address the emerging opportunities in domestic market leveraging the initiatives like Make in India and to work towards export of Defence Products and Systems.

• Mazagon Docks Ltd. Mumbai and General Atomics, Washington DC - Transfer of Technology for propulsion / power generation systems for future projects to be built by MDL.

• Mazagon Docks Ltd. Mumbai and HEC, Ranchi - For indigenous development of Propulsion Shaft by way of Transfer of Technology through Baltisky Zavod, Russia.

• Mazagon Docks Ltd. Mumbai and Shri Refrigerator, Karad, Maharashtra - For indigenous manufacturing of AC & Refrigeration plant for submarines.


• Mazagon Docks Ltd. Mumbai with Myanmar Chemical & Machinery Co. Ltd., Myanmar - To explore export opportunities to Myanmar region including Myanmar Naval requirements.

• Mazagon Docks Ltd. Mumbai and IIT, Madras - For indigenous development of Advanced Unmanned Vehicles.

• Mazagon Docks Ltd Mumbai and Malashite, Russia - Design and indigenous construction of tourist submarine. MoU document exchanged and will be signed within next 10 days.

• Garden Reach Shipbuilders Ltd. (GRSE), Kolkata and Elbit Systems Ltd, Israel - For construction of Unmanned Surface Vessel (USV) which will have the modular multi mission capacity in MCM, ASW, EW and Maritime Security.

• Goa Shipyard Ltd. (GSL) Goa and MTU, Germany - For local manufacturing and overhauling of 8000 series of advanced MTU engines at GSL (7 to 9 MW capacity).

• Goa Shipyard Ltd. (GSL) Goa and Naval Group, France - Design and production of all shore based submarine simulators for Scorpene Submarine Project and all future submarine simulator requirements of the Indian Navy.

• Hindustan Aeronautics Ltd. (HAL) Bengaluru, Mahindra Defence Systems with Boeing, USA - for Super Hornet Fighter Jet/ To build an entirely new and state-of-the-art production facility that can be utilized for other programs like Advanced Medium Combat Aircraft (AMCA)

• MIDHANI, Hyderabad with Ukrainian Defence Industry (Ukroboronprom) - To cooperate and to meet requirements in strategic and other sectors.

• MIDHANI with Coresol, USA - For exporting Products in USA, Canada and South American markets.
B2B MoUs between Private Industries

- Cyient, Hyderabad and BlueBrid Aero Systems, Israel (JV to make UAVs in India) - For Indian defence, paramilitary, security, and police forces.
- Punj Corporation Private Ltd and JSC URALVAGONZAVOD, Russia - To undertake the Repair and Maintenance of the T-72 and T-90 Engines and aluminum radiators in India
- AXISCADES Aerospace & Technologies Pvt. Ltd. and SIDES, France - For Fire Fighting Trucks
- AXISCADES Aerospace & Technologies Pvt. Ltd. and AERACCESS, France - To jointly address the requirements for the aerial surveillance, including disaster management and hazardous site security
- Mahindra Defence and Aeronautics, Israel - For UAV system that can be launched and recovered from Indian warships.
- MKU with EDIC - For Advanced Gas Piston based Assault Rifles.

MoUs Signed during India-Russia Military Industrial Conference

- L&T and Joint Stock Company “Rosoboronexport” - For developing underwater platforms for Indian Navy,
- Ananth Technologies and JSC “Concern Radio - Electronic Technologies” (KRET) - To develop Defence systems and to manufacture spare parts and providing service and maintenance for such items.
- Space Era and JSC “Concern Radio-Electronic Technologies” (KRET) - For technical and logistics support to ensure maximum operational availability of SU-30 MKI and Helicopters of MI 8, MI 17 and MI 35 Type helicopters.
- OSKROSOMARINE and Russian Company JSC AGAT - OSKROSOMARINE and JSC AGAT signed an MoU for development of Fregat radar on-board Indian Naval frontline warships.
- Krasney Defence Technologies and JSC Concern AGAT - For cooperation in after sales support of equipment manufactured and installed on-board Naval ships.
- Ananth Technologies & JSC “Research and Production Corporation” Uralvagonzavod - To set up technical and logistic support for T90S and T72 Tanks to the Indian Army.
- Aviatech Enterprise and JSC AGAT - For cooperation in after sales support of equipment manufactured and installed on-board Naval ships.
Transfer of Technology by DRDO

- DRDO and Bharat Dynamics Ltd. (BDL) Hyderabad for ASTRA missiles
- DRDO and Bharat Dynamics Ltd. (BDL) Hyderabad for Heavy Weight Torpedo, Varunastra.
- DRDO and Ordnance Factory Board (OFB) and Economic Explosives Limited, Pune for Anti-Thermal/ Anti Laser Grenade to OFB.
- DRDO and Bharat Electronics Ltd. (BEL), Bengaluru Data Patterns India Private Ltd., Chennai and Alpha Design Ltd., for Identification of Friend or Foe (IFF) to BEL.
- DRDO and Bharat Electronics Ltd. (BEL), Bengaluru for CAIRGIS
- DRDO and Bharat Electronics Ltd. (BEL), Bengaluru for HUMSA UG/ Sonar System
- ToT for ABHAY/ Sonar System to BEL
- DRDO and Kineco, Goa for Sonar Dome
- DRDO and Lakshmi Machine Works, Coimbatore, BrahMos Aerospace and Bharat Forge Ltd., ToT for Small Turbo Fan Engine

CHAPTER-4

BUSINESS PARTICIPATION

- 702 exhibitors participated including 542 Indian exhibitors including 160 MSMEs and 160 international exhibitors.
- Total Exhibition Space -2,90,000 sq. ft. The was significantly higher than last DefExpo in 2016 which had an area of 2,25,000 sq. ft.
- Indian Exhibitors occupied 72% of total exhibition area including 20% for MSME.

- According to information with organizing team, 42 official delegations including 13 Ministerial level delegations participated. Total 284 foreign/ official delegates reported participation in the event.
Foreign Exhibitors

Public Sector Exhibits

Indian Private Industry Products on Display

Hon’ble RM being briefed by foreign OEM
CHAPTER 5

PUBLIC PARTICIPATION

• DefExpo 2018 had made special efforts to engage general public to create greater interest, awareness and understanding of defence preparedness and production ecosystem.

• The events organized for engaging with public were
  o April 14, 2018- DefExpo was open to public. Entry was free.
  o April 13-15, 2018- DefExpo organized visit to Naval warships at Chennai Port Trust for public. Entry was free.
  o Volunteers from local colleges used during DefExpo 2018.
  o Social media used to disseminate information and events of DefExpo 2018

• The response from public was overwhelming. It far exceeded expected numbers.

• The arrangements for visit to Naval warships at Chennai Port Trust, initially planned for 4000 persons/day, for 2 days i.e April 13 and April 15, had to be scaled up significantly. The visits were extended to 3 days, i.e. April 13, 14 and 15, 2018. Eventually over 71,410 persons visited these ships.
  o Over 3.5 Lakh people visited DefExpo 2018 and its events. The expected number was 1.5 lakh.
  o On April 14, alone, approximately 2.5 to 3 lakh persons visited DefExpo 2018.
  o Between April 11-14, nearly 2 lakh people witnessed the Land, Air and Naval Systems demonstration.
  o In addition 71,410 persons visited Naval warships at Chennai Port Trust between April 13-15.
General Public visiting DefExpo on April 14, 2018

Public witnessing live demonstrations

Children enjoying at HAL Stall

Public viewing models at BDL Stall
CHAPTER-6

MEDIA COVERAGE

The event received extensive positive media coverage. Several events organized during DefExpo were live telecast by DD National Channel and its Regional Channel DD Podhigai.

DefExpo 2018 was widely publicized by erecting outdoor hoardings in Chennai and other Metros, translights were displayed at various Airports. A comprehensive media plan was implemented across print, FM radio, television, outdoor (hoardings, auto/taxis/bus, cinema hall) and social media platforms in a phased manner.

As a result of massive publicity drive created through the media plan, leading national and regional dailies, television channels provided extensive media coverage inviting participation of over 2.5 lakh people on the public day (April 14) of the event. The event received sustained publicity pre-event and post event.
Some illustrations of media report and social media reports are below.

**Social Media Coverage of Defence Expo 2018**

- **The Hindu**
  DefExpo 2018: When the big guns came to town

- **NDTV**
  DefExpo 2018 Updates: India's Mega Defence Exhibition Begins; Major Military Firms Showcase Latest Weapons

- **Bloomberg**
  Best Moments and Weaponry on Display at the Defence Expo 2018

- **Quint**
  DefExpo 2018: In Pictures

- **DNA**
  Defence Expo 2018: What all will be showcased, participating nations and other details you should know

- **The Times of India**
  DefExpo 2018: You can visit Navy ships at Chennai Port till April 15
Some of the comments received about DefExpo 2018 on social media are as below:

Rahul Bhati @rahulbhati
Indian authorities capabilities are not so other's to mount a huge operation such as DefExpo 2018 within a few weeks with such incredible results. Congratulations to @DefenceIndia and @narendramodi

amrit_das @amritdas123
Congratulations @drjaykumar_jes & team Defence Procurement. All these collaborations will boost both defence preparedness & @MakeInIndia initiatives. Huge opportunities for @stareurope also.

Balaji Prabakar @balaji_prabakar
DefExpo has been the best Defence ministry should consider making it a permanent venue. Thanks for the thoughts, @Shekhar_car

Sandeep Jethmalani @sandeepjethmalani
Thanks for the coverage, @DefenceIndia.

The Chennai Defence Expo was so well planned. We got to meet the stalwarts of the industry. Proud to see Indian caps doing much better in this domain as compared to pre 2013 era.

DefExo n Exo @DefExpoIndia
Many exhibitors and visitors of #DefExpo were of the opinion #DefExpo2018 is far better organised than last edition. Good job @drjaykumar_jes

Raksha Mantri, Ajay Kumar, Defence Production India and 7 others
Event branding on Chennai Taxi

Event branding on Chennai Auto rickshaw

ECR Toll Plaza

DefExpo venue by day and night

Mumbai Airport