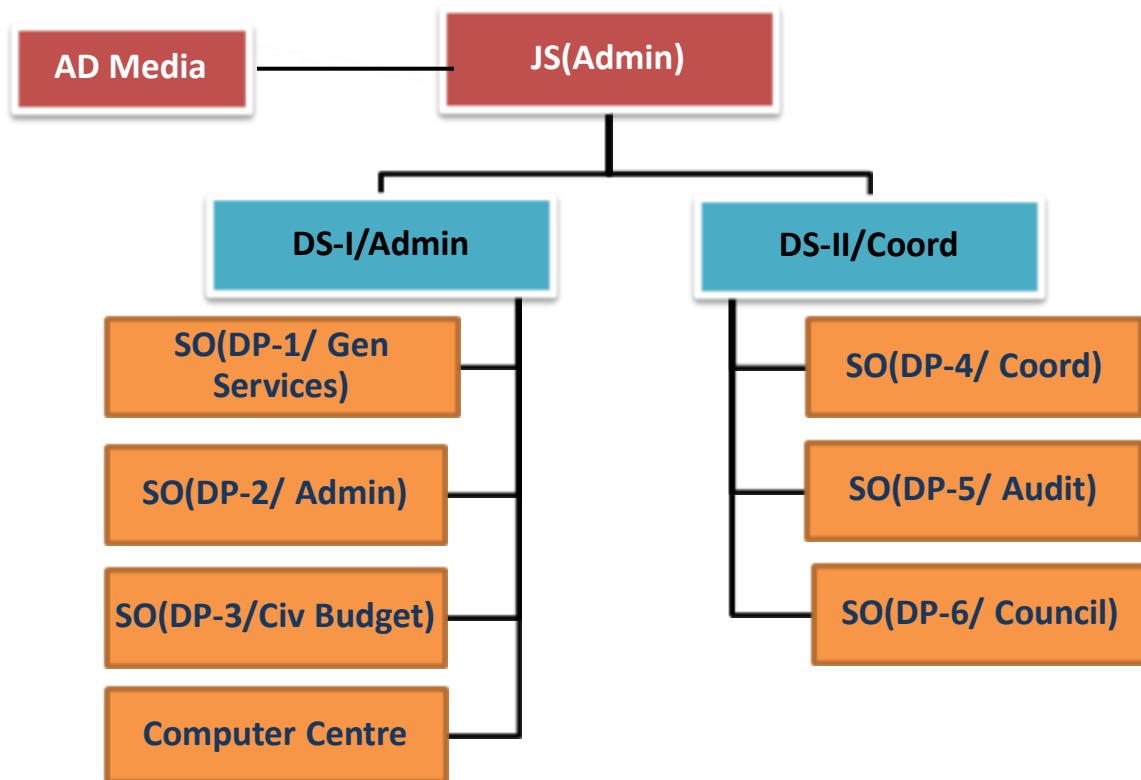


PART – I

WINGS OF MINISTRY OF DEFENCE PRODUCTION

ADMINISTRATION WING**Functions:**

As per Secretariat Instruction No. 5 of Rule 5(15) of Rules of Business, 1973 following is the distribution and functions assigned by the Secretary to different units/sections of MoDP:-

DP-1/General Services:

- i. General administration of MoDP including all matters of transport.
- ii. Protocol work of MoDP
- iii. Issuance/Renewal of official Passports of MoDP/DPEs
- iv. Central Registry Section
- v. All procurements out of civil budget of MoDP
- vi. Maint/Repair work of MoDP Sectt/Residential accommodations.

DP-2/Administration:

- i. Establishment/Personnel matters of MoDP.
- ii. Hiring/de-hiring of residential accommodation for MoDP employees
- iii. Supervision of Record Room
- iv. Issuance of NOC to officers of MoDP and its organizations visiting abroad.

DP-3/Civil Budget:

- i. Management of current Civil Budget of MoDP, Development Budget/PSDP Schemes of MoDP.
- ii. All types of advances, reimbursement claims & pension cases of officers/staff MoDP
- iii. Drawing & Disbursing work related to MoDP Secretariat.
- iv. Also handles all facilitation services for pensioners as directed by Establishment Division/Prime Minister's Office.

DP-4/Coordination:

- i. General Coordination with DPEs, Federal as well as Provincial Ministries/ Divisions
- ii. All work related to DW & CE(DP).
- iii. Coordination for the publication of Year Book of MoDP.
- iv. Coordination for the periodical briefing of Federal Minister for Defence Production.
- v. Also function as a litigation cell of the Ministry.

DP-5/Audit:

- vii. Work pertaining to DAC/PAC, Appropriation of Accounts & Defence/Commercial Audit relating to both Defence and Civil budgets.

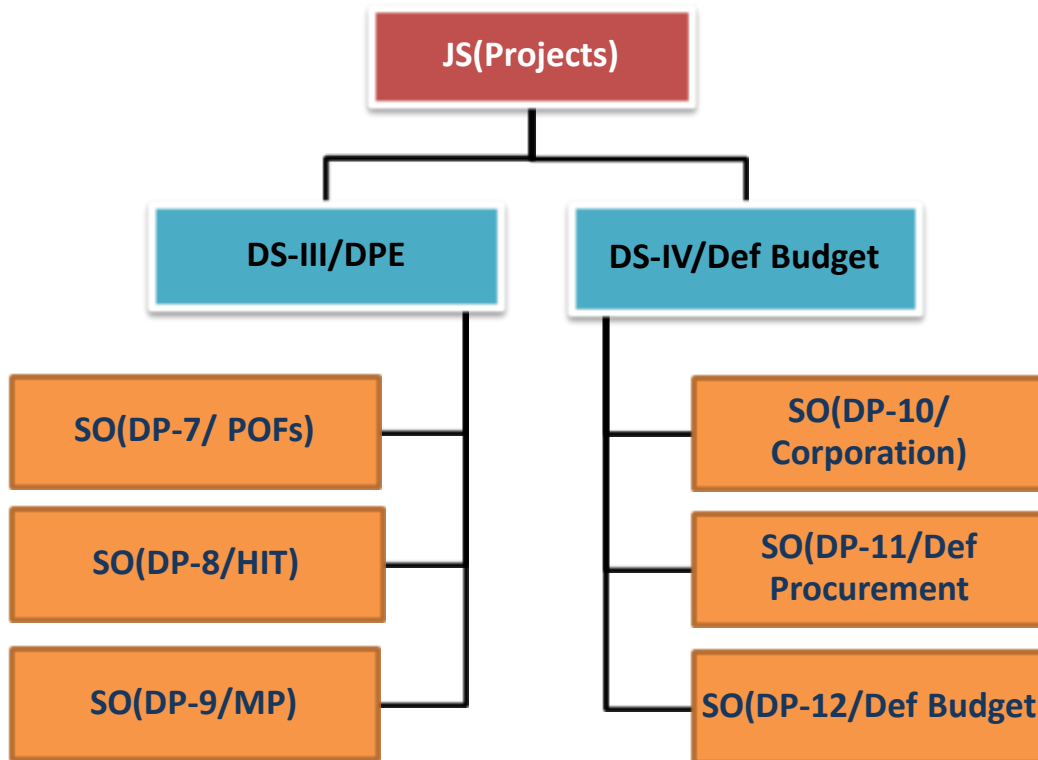
DP-6/Council

- i. National Assembly/Senate Business, Cabinet decisions, PM/President Directives, JAC, JCSC, DCC, DP R & D Board, War Book, Defence Planning Committees, JLPC, Defence Planning Committees on Essential Supplies/Commerce & Trade, Food Supplies, Price Escalation Committees and JSHQ meetings etc.
- ii. Security Officer of MoDP to coordinate and ensure security including maintenance of security equipment in close liaison with overall security officer, (GSO-I DGMP) OCFS Team and OC DSG Platoon under guidance of JS(DP).
- iii. All Secretariat work related to OC(FS team).

Computer Centre

- i. Maintenance of MoDP website and its updation.
- ii. MIS/Data Base of MoDP.
- iii. All matters related to Computerization/Office Automation System of MoDP.
- iv. Maint/Repair matters of all office IT equipment.
- v. Also train interneers referred by Prime Minister's Youth Programme.

PROJECT/BUDGET WING



Functions:

DP-7/POFs:

- i. All matters of POFs Board and its subsidiaries (Except Budget, Audit and International Collaboration).

DP-8/HIT:

- i. All matters of HIT Board (Except Budget, Audit and International Collaboration).

DP-9/MP:

- i. All matters of DGMP, MVRDE, IOP and ARDE (Except Budget, Audit and International Collaboration).

DP-10/Corporation:

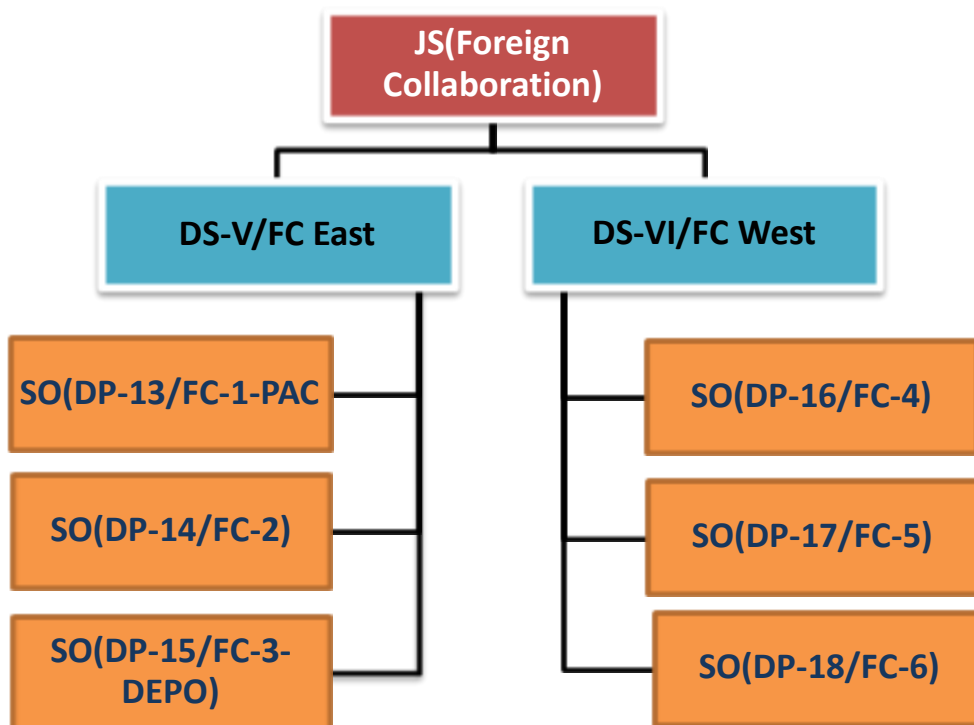
- i. All matters of KS&EW, NRTC (Except Budget, Audit and International Collaboration).
- ii. All matters of Shipbuilding Industry in Pakistan including proposed Gawadar Shipyard Project and Port Qasim Shipyard Project.
- iii. End user certificates regarding weapons/equipment.

DP-11/Def Procurement:

- i. All matters of DGDP (Except Budget, Audit and International Collaboration).
- ii. All matters relating to PPRA Board and its application to procurement by DGDP and other procuring agencies of MoDP.

DP-12/Def Budget:

- i. All matters relating to allocation, appropriation & re-appropriation of Defence Budget for DPEs received through M/o Defence.

FOREIGN COLLABORATION WING**Functions:****DP-13/FC-1-Kamra:**

- i. All matters of Pakistan Aeronautical Complex (PAC) Board Kamra (Except Budget, Audit and International Collaboration).

DP-15/FC-3-DEPO:

- i. All matters of DEPO, International/Local Exhibitions and import and export permits. This also includes performance of protocol duties by the officers and staff of these sections in connection with the incoming foreign delegations.

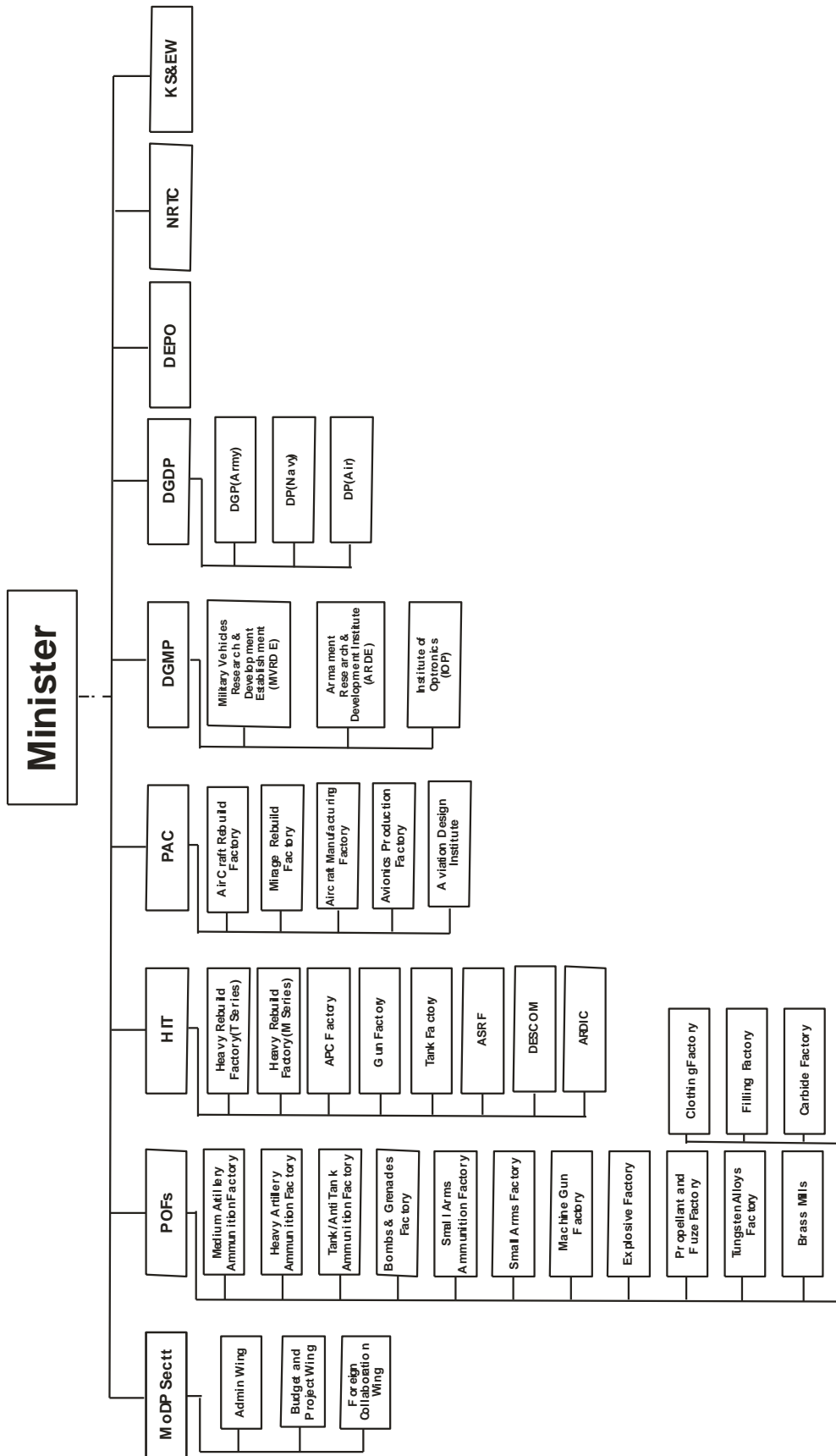
DP-14, 16, 17 & 18/FC

- i. International Collaboration (Technical & Financial). This also includes performance of protocol duties by the officers and staff of these sections in connection with the incoming foreign delegations.

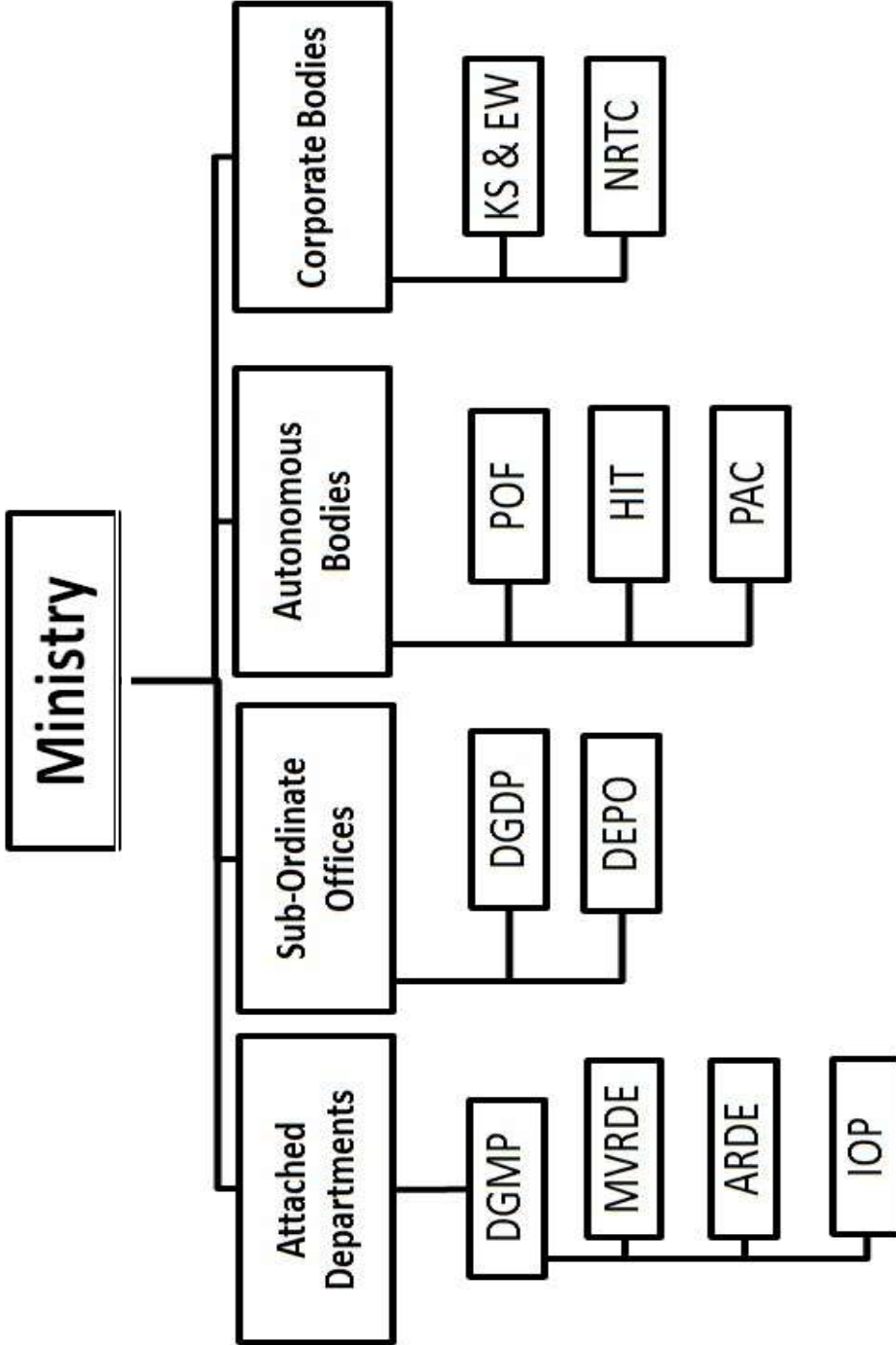
PART – II

ATTACHED DEPARTMENTS, AUTONOMOUS BODIES AND CORPORATIONS OF MODP

MINISTRY AND ITS ORGANIZATIONS



MINISTRY AND ITS ORGANIZATIONS





Directorate General Munitions Production (DGMP)

DIRECTORATE GENERAL MUNITIONS PRODUCTION



Introduction

1. The importance of self-reliance through indigenization cannot be over emphasized. Phenomenon of indigenization is a function of numerable factors and considerations outside the control of developing countries like ours. In 1965, the embargo placed on Pakistan made the Government realize that there was a necessity of achieving self-reliance in production of essential defence hardware items. This led to the establishment of Directorate General Munitions Production and Procurement (DGMP&P) in 1967. It was bifurcated in 1970 into DGDP & DGMP. The former catering to defence procurement and the later for indigenous production of def equipment through ToT, co-production and joint ventures keeping in view the local potential to absorb the requisite know how. DGMP is organized on a tri-svc basis and has three

Directorates dealing with Army, Navy and PAF projects respectively.

Mandate of DGMP

2. Mandate of DGMP is as under:-
- a. To maximize indigenous production of def stores in public and private sector with the ultimate aim of attaining self-sufficiency.
 - b. To assist Ministry of Defence Production in formulating plans for giving a defence bias to future industrial planning.
 - c. Acquisition of technical know-how, rights of mfr and enter into collaboration arrangements whenever sizeable import of an item is made.

- d. Utilization of available research facilities within the country to maximize indigenous defence capability.

Functions of DGMP

- 3. Functions of DGMP are as under:-
 - a. Keeping close and constant liaison with the Services Headquarters and DGDP to identify requirements for indigenous production of defence stores and equipment.
 - b. Development of prototype of major end items and their subsequent production in local industries.
 - c. Collaboration with foreign countries and manufacturers in joint development and production of defence stores.
 - d. Carrying out periodic survey of industries, their registration and profiling, to assess the potential available and to publish/publicize survey reports for information of all concerned agencies.
 - e. Provide Secretariat Service to Defence Production R&D Board and Inter Services Armament and Explosives Committee.
 - f. Issuance of NOC for import of Defence stores, which cannot be developed or are at a stage of development.
 - g. Recommend modification of Defence Procurement procedures where necessary, to support indigenous production.
 - h. Administer funds allocated for development of defence equipment.

Major Activities / Achievements

- 4. Major activities during 2017-18 includes following:-
 - a. Signing of 28 x new projects during the year (summary at Annex-A)
 - b. Completion of 6 x projects during the year (summary at Annex-B)
 - c. Indigenous development / production of SDR (Software Defined Radios)
 - d. Indigenous development / production of DSCR (Digitized Surveillance Control And Reporting) System
 - e. Commissioning of FAC (M)-3 (Fast Attack Craft Missile-3)
 - f. Launching of MPVs (Maritime Patrol Vessels)
 - g. Delivery of MPB (Multipurpose Barge)

RESEARCH AND DEVELOPMENT ESTABLISHMENTS (R&DEs) OF DGMP

Military Vehicles Research And Development Establishment (MVRDE)

5. MVRDE is a multi disciplinary organization capable of conducting research and development pertaining of military vehicles, engineer equipment and defence related mechanical system. MVRDE focuses on furnishing feasibility, design and technical details that present a solution to customer's stipulated problem or challenge. A large spectrum of equipment has been developed indigenously. Major projects signed and completed are as under:-

- a. **Projects Signed during the Year:-**
 - (1) Shifting / Mtg of Scissor Type AVLB on Tk Al-Khalid
 - (2) Mob Tel Comm Van

- b. **Projects Completed during the Year:-**
 - (1) APU for Tk Al-Zarrar
 - (2) Lower Carriage for 37 MM Twin Barrel Gun
 - (3) Water Bowzer 4500 Liters
 - (4) Mob Wksp Ancy on 5 Ton Trk Chassis
 - (5) Fab of Avn Fuel Bowzer 4500 lits
 - (6) Mobile Electronic Wksp
 - (7) Mobile Porta Cabin

Major Activities

6. Projects likely to be completed during (2018-19) of MVRDE are as under:-
- a. Rapid Infantry Bridge (RIB)
 - b. APU for Tk Al-Zarrar and Tk T-80 UD
 - c. Shifting/mtg of Scissor Type AVLB on Tank Al-Khalid
 - d. Fabrication of Water Bowzer 4500 Lits
 - e. Boat Bridge Erection 19 Ft with Cradle
 - f. Fab of Avn Fuel Bowzer
 - g. Light Rec Veh
 - h. Up Gradation of Launching Assy CL-30
 - i. Hydraulic Launching Assy CL-60
 - j. Sml for Styre Sniper Rifle
 - k. ATGM / BSWS Universal Sml
 - l. Lower Carriage for 37 MM Twin Barrel Gun
 - m. Mobile Tel Communication Van

Armament Research and Development Establishment (ARDE)

7. ARDE was established in 1974 for development of weapons and ammunition through R&D and reverse engineering to meet essential requirements of three services.

Major Activities / Achievements

8. **Project Completed.** Project for Expl Grid (E-Grid) Sys (Dev of Dispensing Unit) has been completed successfully. ITD Dte supported induction of newly dev eqpt in svc.

9. **Projects Signed.** Following projects have been signed by ARDE during 2017-18:-

- a. 40 mm Multi Grenade Launcher
- b. RPG-7 Rocket Launcher
- c. Thermal Vest & Drawers
- d. Sleeping Bag
- e. Down Jacket & Trouser

10. **Test / Trials – Ongoing**

- a. EOD Suit with Cooling Arrangement for Disposal of Std Munitions have been dev by the firm. Test / trials to verify blast parameters are being carried out.
- b. Prototype of Mini Electronic Exploder have been developed. Technical evaluation is under process at IE&I.
- c. Shot assys of Rd 125 mm FSDS/T have been inspected and accepted. Trials are being arranged.

Institute of Optronics (IOP)

11. Institute of Optronics was established in 1984 to undertake R&D work in the field of Optronics and to assemble and produce night vision devices to meet the requirements of the three services.

Major Activities / Achievements

12. Major achievements are as under:-

- a. IOP is engaged in provision of Night Vision Equipment (NVE) to Law Enforcement Agencies (LEAs) as a pilot project. IOP has secured various orders/contracts from LEAs for supply of Night Vision Equipment.
- b. 90 x students have completed internship at IOP under Prime Minister Youth Internship Program.
- c. 20 x students of various institutions i.e NUST, FAST, UET, Bahria, APCOM, HITECH etc completed summer internship program at IOP.
- d. IOP conducted visit / training of 175 x students from college of EME and on Job training programs for JCOs / Sldrs, Optronics Technician (OT) courses and Night Vision Equipment (NVE) Repair / Maintenance training as well.

13. Projects completed by IOP during 2017-18 are as under:-
- a. Repair Support to LEA's:-
 - (1) NVD's repaired - Qty 101
 - (2) Cost effect - 10-15 Mn Approximately
 - b. Testing of IIT's by IOP:-
 - (1) Total no of received - Qty 616
 - (2) Total tested - Qty 616

New Initiatives

14. Following new initiatives / projects are under consideration:-
- a. **MVRDE**
 - (1) Dev of Bailey Bridge
 - (2) Mobile Workshop Diesel Lab on 5 Ton Trk Chassis
 - (3) Avn Towing Tractor
 - (4) Ammo Containers 20 ft
 - (5) Aviation Fuel Bowzer 7000-9000 liters
 - (6) AC Tow Tractor
 - (7) 10 Ton Fork Lifter Heavy
 - (8) 5 Ton Crane Cum Carriers (2 x addl requirement)
 - (9) Avn Refueller Veh Mtd 1000-1200 liters
 - (10) Aircraft Refueller 20,000 Liters
 - (11) Mobile Repair Van
 - b. **ARDE**
 - a. Indigenous Dev of Electronic Influence Fuze for Mine A/Tk
 - b. Indigenous Dev of Mine AP Land Defender with Darting Penetrator
 - c. Indigenous Dev of Cleaning Kit for G-3/MG1A3
 - d. Indigenous Dev of Carts HE-SD Grenade AR 40 x 46 mm
 - e. EOD Shoes for EOD Suit for Disposal of Standard Munitions
 - f. Bomb Blanket for Demolition
 - g. Executive Bullet Proof Brief Case Shield
 - h. Ballistic Shield
 - i. 81mm & 120mm Pre-fragmented mortar bombs

c. **IOP**

- a. Establishment of basic and advance level TI Lab for undertaking project of assembly of TI Sights in future.
- b. R&D on following projects are being pursued:-
 - (a) TI Surveillance Camera
 - (b) TI DNVP
 - (c) Upgrading of Mini monocular (Mum)
 - (d) TI Monocular
- c. ISO-9001 Certification is under process.



Directorate General Defence Purchase (DGDP)

1. Financial year 2017-18 like previous fiscal year was eventful and rewarding from procurement point of view. During the period under review, procurement to the tune of **Rs 383,155,076 Mn** has been made for the Armed Forces. In depth analysis of entire procurement activities revealed a substantial improvement in all facets. The improvement in output is attributed to wholehearted and well-coordinated efforts put in by all agencies and organizations, which certainly deserve appreciation. An overview of activities/achievements are enumerated below.

PROCUREMENT ACTIVITIES

2. Summary of procurement activities for FY 2017-18 in respect of DGDP, DPs and AsDP is as under:-

a. **DGDP**

(1) **Against Development (SADA) Packages**

Indents Received	Cross-mandated	Cancelled/Not Concluded	Contracts Concluded
01	-	-	01

(2) **Against Service Budget**

Indents Received	Cross mandated	Cancelled/Not Concluded	Contracts Concluded
08	-	01 (Cancelled)	07

b. **DIRECTORATES OF PROCUREMENT (DPs)**

(1) **Against Development Packages**

Ser	Org	Indents Received	Cross-mandated	Cancelled/Not Concluded	Contracts Concluded
(a)	DGP (Army)	13	-	02	11
(b)	DP (Navy)	-	-	-	-
(c)	DP (Air)	04	-	-	04
Total:		17	-	02	15

(2) **Against Service Budget**

Ser	Org	Indents Received	Cross mandated	Cancelled/Not Concluded	Contracts Concluded
(a)	DGP (Army)	922	04	248	685
(b)	DP (Navy)	714	203	289	425
(c)	DP (Air)	518	39	41	527
Total:		2154	246	578	1637

c. **ATTACHES DEFENCE PROCUREMENT (AsDP)**(1) **Against Development Packages**

No contract has been concluded by AsDP against Development Packages.

(2) **Against Service Budget**

Ser	Organization	Indents Received		Cancelled/ Not Concluded		Contracts Concluded	
		XM	SP	XM	SP	XM	SP
(a)	ADP (Washington)	32	64	11	20	21	44
(b)	ADP (London)	54	85	10	30	46	80
(c)	ADP (Paris)	22	18	08	03	21	15
(d)	ADP (Beijing)	06	11	04	04	03	07
Total:		114	178	33	57	91	146

CONTRACTS CONCLUDED

3. Detail of contracts concluded during the FY 2017-18 are as under:-

a. **Against Development Packages**

Organization	No of Contracts Concluded		Value of Concluded Contracts	
	FE	LC	FE (\$ in Mn)	LC (Rs in Mn)
DGDP	01	-	1565.000	-
DGP (Army)	03	08	8.354	2,108.495
Total	08	08	1650.753	2108.495

b. **Against Service Budget**

Organization	No of Contracts Concluded		Value of Concluded Contracts	
	FE	LC	FE (\$ in Mn)	LC (Rs in Mn)
DGDP	07	-	521.721	
DGP (Army)	52	633	123.645	54,936.977
DP (Navy)	212	213	93.027	3,329.252
DP (Air)	189	338	182.319	19,348.234
ADP (Washington)	65	-	14.782	-
ADP (London)	126	-	8.500	
ADP (Paris)	36	-	14.657	
ADP (Beijing)	10	-	3.012	
ADP (Moscow)	Nil	Nil	Nil	Nil
Total	697	1184	961.663	77,614.463

PROCUREMENT OF MAJOR DEFENCE EQUIPMENT

4. Details of Major Defence Equipment procured during last FY 2017-18 by DGDP and DPs is placed at **Appendix-I**.

SUMMARY OF SAVINGS

5. The economy factor remained the hallmark of the financial year under report. In order to achieve competitive prices, deliberate efforts were made to achieve the desired rates which ultimately resulted in saving millions of rupees to the National Exchequer. The details of saving during FY 2017-18 against assessed rates, last procurement rates (LPR) and offered rates are as under:-

a. **Against Development Packages**

Organization	Saving Against Assessed Rates (Rs in M)	Saving Against User Est/LPRs (Rs in M)	Saving Against Quoted/Offered Rates during Contract Negotiation (Rs in M)
DGDP	-	-	21487.750
DP (Air)	104.822	60.064	265.817
Total	104.822	60.064	21753.567

b. **Against Service Budget**

Organization	Saving Against Assessed Rates (Rs in Mn)	Saving Against User Est/LPRs (Rs in Mn)	Saving Against Quoted/Offered Rates during Contract Negotiation (Rs in M)
DGDP	-	-	7.077
DGP (Army)	8.609	2403.946	1072.832
DP (Navy)	-	915.806	-
DP (Air)	1319.998	2655.215	1606.503
ADP (Washington)	-	54.211	67.350
ADP (London)	-	32.453	3.028
ADP (Paris)	-	340.363	7.261
ADP (Beijing)	-	115.392	-
Total	1328.607	6517.386	2764.051

OUTSTANDING CONTRACTS

6. Details of outstanding contracts during the period are as under:-

Org	Total Outstanding Contract	Cases Added During the LFY	Cases Settled During LFY	Outstanding Amount (Rs in Mn)
DGDP	-	-	-	-
DGP (Army)	377	44	36	19515.271
DP (Navy)	63	143	02	2729.662
DP (Air)	237	63	199	7003.930
Total:	677	250	237	29248.863

RECOVERY OF RISK & EXPENSE MONEY

7. Details of Risk & Expense cases along with recovery made during the period are as under:-

Organization	Total No of Contracts	Total RE Amount Involved (Rs in Mn)	Total Recovery Carried Out (Rs in Mn)
DGP (Army)	486	660.360	0.812
DP (Navy)	07	27.886	12.997
Total	493	688.246	13.809

REGISTRATION OF FIRMS

8. The results of registration activities during the last financial year are tabulated as under:-

a. New firms registered	-	52
b. Renewal of registered	-	134
c. Additional indexation of firms	-	27
d. Issuance of IT on Earnest Money	-	-
e. Total Number of defaulting firms	-	-

ACTIVITIES OF SHIPPING CELL (DGDP)

9. State of Freight / Insurance Bills against contracts concluded by Tri Services during FY 2017/2018 are as under:-

a. **FREIGHT**(1) **PNSC**

Ser	Contracting Agency	Freight Charges (Rs in Mn)
(a)	Army	392.117
(b)	Navy	155.447
(c)	Air Force	102.936
Total		650.500

(2) **PIAC**

Ser	Contracting Agency	Freight Charges (Rs in Mn)
(a)	Army	5.419
(b)	Navy	11.028
(c)	Air Force	98.738
Total		115.185

b. **INSURANCE**

Ser	Contracting Agency	Insurance Charges (Rs in Mn)
(1)	Army	80.428
(2)	Navy	15.170
(3)	Air Force	60.822
Total		156.420

ACTIVITIES OF DISPOSAL WING (DGDP)

10. Details of auctioned stores for FY 2017-2018 are as under:-

Ser	Svc HQ	Value (Rs in Mn)
a.	Army	663.403
b.	PAF	295.305
c.	Navy	204.664
Total		1163.372

ACTIVITIES OF FMS CELL (DGDP)

11. Procurement activities for FY 2017/2018 are as under:-

Ser	Name of LOA	Description	Qty/ Nature	Value (\$ in Mn)	Funding Source	Signing date
a.	PK-B-UBJ (Army)	International Logistics Communication System (ILCS) support	-	0.01	FMF	24 Aug 2017
b.	PK-P-LCW (Navy)	Salvage and Rescue (SAR) and Salvage	-	0.947	FMF	12 Oct 2017
c.	PK-P-GDF (Navy)	Technical / Maintenance for 5x PN CENTRIXS Terminals	-	0.255	FMF	25 May 2018
Total :			-	1.212		

DETAILS OF MAJOR DEFENCE EQUIPMENT**1. Against Development Packages**

Ser	Description of Stores	Qty	Contract Value	
			FE (\$ in Mn)	LC (Rs in Mn)
<u>DGDP</u>				
(1)	T-129 ATAK Hells and allied eqpt. Msl/Ammo and Svc	30	\$ 1565	-
<u>DGP (Army)</u>				
(1)	Relifing FN-6 Incl CTC	162	2.529	-
(2)	Trestle Br AM-50	01	3.507	-
(3)	APU for Tk A-Khalid	55	2.318	-
(4)	Staff Car 1800 CC Honda Civic Model NFBFC 665 JR Auto Tx	26	-	62.400
(5)	Trk ¼ Ton 4x4 Toyota Land Cruiser HZJ-71 RKJMRS	29	-	154.950
(6)	Trk 1 Ton 4x4 Toyota Land Cruiser Pick Up Model HZJ 79R TJMRS	31	-	157.892
<u>DP (Air)</u>				
(1)	YLC-18A Multi Role Radars	05	24.990	
(2)	SHORADS (Complete set of Training, Eqpt Tools and Spares	13	24.915	
(3)	Multi- Threat RF Simulation Lab	05	14.994	
(4)	Solid State TXR Kits	60	12.499	

2. Against Service Budget

Ser	Description of Stores	Qty	Contract Value	
			FE (\$ In Mn)	LC (Rs in Mn)
<u>DGDP</u>				
(1)	ATGW Kornet-E	52	62.458	-
(2)	FN-16 IR SAM Manpads	295	25.013	-
(3)	6 th AEW&C Aircraft	01	94.95	-
(4)	SAAB 2000 A/C	03	9.30	-
(5)	REK for Bombs	100	100	-
(6)	CM-400 AKG Air to Ground Missile	60	100	-
(7)	Low Level Radars	10	130	-
<u>DGP (Army)</u>				
(1)	Spec Devices, Tool & Gen Tools for Tk Al-Zarrar, Al-Khalid & T-85IIAP	1507 L/items	23.228	-
(2)	Engine Assy for T-80UD & Al-Khalid	40	15.924	-
(3)	VOSEL Anti Tank Shoulder	369	9.035	-

Ser	Description of Stores	Qty	Contract Value	
			FE (\$ In Mn)	LC (Rs in Mn)
	Fired Rkts (ALCOTAN)			
(4)	Tank Spates for T-80UD	50 Items	8.678	-
(5)	OH of 3x MI-172 Hels	03	8.400	
(6)	Engine for Tk Al-Zarrar	79	6.472	-
(7)	Spares for Tk 125MM T-80 UD Ukraine	72	4.250	-
(8)	Trk 8 - 10 Ton 6x6 AD/Oerlikon Gun Tower With Winch & PTO	12	Euro 2.626	-
(9)	155mm How HE ERFB-BBRA	891	2.610	-
(10)	Rds 155mm How ERFB-BBRA Ammo	441	1.292	-
(11)	56x Spares for How Med Towed 155 mm M198	Various	0.237	-
(12)	TI Bino Uncooled	819		1037.501
(13)	Wh Dozer	16	-	351.632
(14)	Lt WT CBT Helmet, Small Medium & Large	Cmt 13705 Disbt 2056	-	218.948 32.846
(15)	Wh Crane 25 Ton	02	-	112,200
(16)	AD Tgt Drones	163	-	104.278
(17)	Wh Tractor With Bucket & Backhoe	08	-	95.816
(18)	APC-113P	07	-	26.829
(19)	5x Spares for How Med SP 155mm M109A2 & How Hy SP 8" M110A2	Various	-	14.368
<u>DP (Navy)</u>				
(1)	DVBS2 Marine Thermal Sys (OPV-1)	02 Sys	0.141	-
(2)	Supportability of 12.7 MM 25 MM Gun	Various	0.112	-
(3)	CTGs SAA 12 Bore Shot No 7 (Trap)	Various	-	33.696
(4)	Radio Graphic System	02 Nos	-	11.350
<u>DP (Air)</u>				
(1)	RD-93 Engine for JF-17 Fleet	05	22.413	-
(2)	Life Components of JF-17 A/C	15	6.398	-
(3)	WP-14 Deficiencies for JF-17 A/C	26	5.992	-
(4)	Definitized Components for JF-17 A/C	106	5.390	-
(5)	Flare CM 218 MK3 Type	60000	4.487	-
(6)	Night Vision Goggles (NVGs)	538	4.008	-
(7)	I Level SRU's for JF-17 A/C	41	4.003	-
(8)	KLJ Radar "I" Level Testers for JF-17 Aircraft	37	3.000	-

-:9:-

Ser	Description of Stores	Qty	Contract Value	
			FE (\$ In Mn)	LC (Rs in Mn)
(9)	Tender Fire Crash	07	2.986	-
(10)	Aircraft Refueller	09	2.953	-
(11)	Bomb Lifter Truck (BL-1) alongwith Accessories	12	2.005	-
(12)	SPADA Spares	12	1.639	-
(13)	CHAFF Carts-21 for JF-17 Aircraft	10700	1.190	-
(14)	Carts 30 mm DEFA Spares	4600	0.855	-
(15)	Ammo 30 mm Defa Tp Mir A/C	9370	0.740	-
(16)	SMG 7.62x39 mm alongwith Accessories	2662	0.470	-
(17)	Bomb 1000 LBs PK-83 Anti Armour (ASA) with Accessories	182	-	497.283
(18)	CCTV & Security Surveillance System (SSS) for PAF Bholari	01	-	158.820
(19)	Truck 3/5 Ton	21	-	133.607
(20)	Bomb 500 LBs PK-82 Dummy with Accessories	09	-	125.545
(21)	Cloth Camou (Combat Dress)	229,885	-	65.296



**Defence Export Promotion
Organization
(DEPO)**

1. **General.** DEPO was raised in 2002 through an executive order with a view to facilitate the enhancement of defence exports of Pakistan. DEPO is frequently visited by high level political and military foreign as well as local delegations. DEPO provides a platform for facilitation, promotion and coordination of defence exports to public and private sectors. Accordingly, DEPO organizes International Defence Exhibition and Seminar (IDEAS) at Expo Centre, Karachi. On one hand IDEAS provide a perfect interactive forum for the defence forces to assess the products and technologies, which suit / fulfill their requirements, on the other hand, it also offers an ideal opportunity to the defence manufacturers for entering into collaboration and joint ventures with other prospective international partners. DEPO also organizes seminars and establish Pakistan Pavilion in international defence exhibitions. Therefore, DEPO maintains effective liaison with a broad range of stakeholders for accomplishment of tasks.

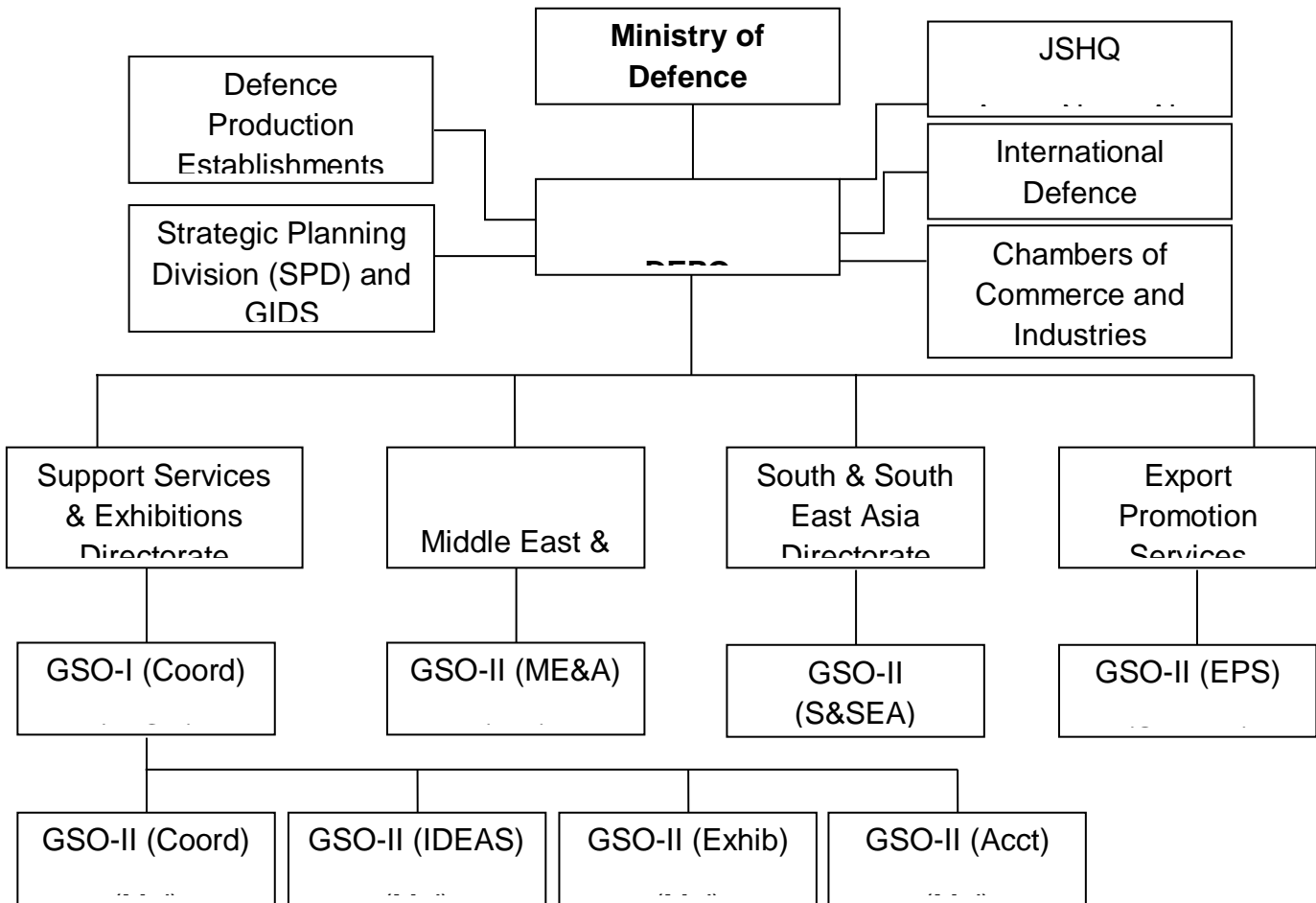
2. **DEPO Terms of Reference (TOR) – As per Raising Order**

- a. Provide a platform for facilitation, promotion and development of defence exports (products and services) in public and private sector.
- b. Act as advisor to Secretary (DP) for proposing policy options to enhance defence exports and address appeals / grievances of foreign customers.
- c. Coordinate promotion of defence exports with govt agencies / organizations including foreign missions.
- d. Promote defence exports through interaction with high level military delegations proceeding abroad and foreign high level military delegations visiting Pakistan.
- e. Conduct seminars, workshops, exhibitions and conferences connected with defence exports, and facilitate / coordinate participation in foreign exhibitions.
- f. Assist defence services in marketing training packages, overhaul / maintenance facilities, surplus stores and obsolete equipment.
- g. Coordinate services of Pakistani consultants for contract management wherever required.
- h. Advise and Assist defence manufacturers in evaluation and selection of sales representatives.
- i. Establishment and maintenance of Display Centre for defence related products.

3. **Vision.** As a national platform, provide support to defence manufacturing, service sector and the export chain through “Promotion, Facilitation & Coordination” for sustained growth of defence exports.

4. **Mission.** Facilitate, Coordinate & Promote Export of defence related quality products

5. **Organization**



6. **International Defence Exhibition and Seminar (IDEAS).** Since 2000, IDEAS has matured and is recognized as one of the leading international defence exhibitions in the world. The traditional all out support of the Government of Pakistan is instrumental in making IDEAS a success story. Projection of positive image of Pakistan is the main objective of IDEAS and the conduct of IDEAS-2016 facilitated to project positive image of Pakistan. The successful conduct of IDEAS can be gauged from the statistics since 2000. IDEAS is the flagship event of DEPO and is conducted biennially since 2000. IDEAS 2016 was 9th edition of IDEAS, was successfully conducted and was widely covered in national / intl media. Defence industry of Pakistan, both Public and Private sectors, were able to engage with the international defence manufacturing companies. During IDEAS-2016, 294 companies from 36 countries and 133 Pakistani companies participated. Growth of IDEAS is reflected as under:-

a. **Exhibitors**

Ser	IDEAS	Domestic	Foreign	Total
(1)	2000	25	40	65
(2)	2002	60	52	112
(3)	2004	73	90	163
(4)	2006	73	148	221
(5)	2008	94	162	256
(6)	2010	Cancelled		
(7)	2012	74	135	209
(8)	2014	82	256	338
(9)	2016	133	294	427

- b. **Foreign Delegations.** 88 delegations from 40 countries participated in IDEAS-2016 thus projecting the positive image of the country. The increase in foreign delegations since 2000 in IDEAS is shown below:-

Ser	IDEAS	Foreign Delegations	Remarks
(1)	2000	42	
(2)	2002	40	
(3)	2004	43	
(4)	2006	63	
(5)	2008	73	
(6)	2010	Cancelled	
(7)	2012	80	
(8)	2014	85	
(9)	2016	88	Approx 225 delegates

- c. **Local Delegations.** Large number of local delegates Svcs HQs, Federal Ministries and other various departments of federal as well as provincial stature were invited for the IDEAS 2016.
- d. **MoUs.** Fifteen MoUs were signed during the exhibition, concerned DPEs will follow up to convert said MoUs into business deals. Details are as:

Ser	Organization	Country	Description
(1)	POF	Azerbaijan	With MoDI Azerbaijan To explore ways and means for mutual collaboration in the field of conventional arms & ammunition
(2)	POF	Czech Republic	With M/s Czechoslcvak Group, A.S (CZ) Company Negotiate a delivery of coimplete technology for the production of small arms
(3)	POF	Czech Republic	With M/s Czechoslcvak Group, A.S Delivery of complete ToT for production of small arms & ammunition
(4)	PAC	France	With M/S LA Tele Manufacturing of harnesses & connectors etc for JF-17 Project
(5)	POF	Italy	With M/s FLOCHI, Small Arms Ammunition Mutual cooperation in the field of small arms & ammunition, brass strips and

			GMCS for manufacturing of small arms & ammunition
(6)	MoD	Niger	With MoD of Niger Military cooperation with Niger
(7)	PAC	Pakistan	With M/s Telec Electronics & Machinery (Pvt) Ltd To recognize the commercial opportunities for indigenous TPS co-development
(8)	PAC	Pakistan	With M/s STI (Pvt) Ltd Procurement of 2 SMK Flight Simulators
(9)	PAC	Pakistan	With M/s Tabani Group Establishment of MRO facilities for MI-17 Helicoptre
(10)	PAC	Pakistan	With M/s Telec Electronics & Machinery (Pvt) Ltd To lay down the frame work for long term collaboration
(11)	POF	Poland	With M/s Polska Grupa Zbrjeniowa S.A (PGZ) Co. Collaboration in the field of ammunition , procurement, supplies & related technology
(12)	PAC	Turkey	With SSM Sale of 52 SMK to TuAF
(13)	PAC	USA	With M/s Ampack Up-gradation of multi engine Test Cell
(14)	HIT	Ukraine	With M/s UKRSPECEXPORT Supply of 110 power packs & tech services for production of AK-1 Tks in Phase-2

7. **Preparations for IDEAS 2018** Preparations for IDEAS had started even before the conducted of IDEAS 2016. Salient of preparation of next IDEAS are:-

- a. Approval of dates of next IDEAS.
- b. Engagement with Pakistani Missions Abroad.
- c. Engagement with Foreign Missions in Pakistan.
- d. International Marketing Agents.
- e. Organizers of major international defence exhibitions.
- f. Advertisement in International Defence Magazines / Publication (print / online).

8. **International Defence Exhibitions – Pakistan Pavilion**

- a. **Participation in International Defence Exhibitions.** MoDP has issued a comprehensive SOP about the matter and participation is governed by this SOP. DEPO receives various invitations for foreign exhibitions and selective approach is

adopted for participation due to financial constraints. Pakistan Pavilion is established by DEPO with the view to achieve following objectives:-

- (1) Promote Pakistani defence products in foreign defence exhibitions.
- (2) Facilitate participation of Public & Private Sector.
- (3) Encourage private sector defence industry.
- (4) Marketing of IDEAS.

b. **Format of Participation** DEPO is mandated to facilitate defence exporters for participation in international defence exhibitions as a marketing strategy. As per SOP, only DEPO is entitled to interact with international exhibition organizers in terms of space booking, contract signing and all other ancillary matters related to participation in any defence exhibition abroad. DEPO manages this task and participation in various exhibitions abroad as per following formats (one format for an exhibition):-

- (1) **Estb of Pakistan Pavilion** – where 2 or more DPEs participate and a complete island (any size) is booked by DEPO.
- (2) **As an Exhibitor** Where one or less number of DPEs participate and DEPO also plans its stall.
- (3) **As a Trade Visitor** Where, only participate as a fresh exhibitor and no stall is made by DEPO

9. **SAVDEX-2018.** Defence Industry in Pakistan has grown up manifold in recent decades thus resulting into quantum increase in the ancillary SMEs in the fields of Defence Suppliers as well as Vendors in various industrial hubs of Karachi, Lahore, Gujranwala, Faisalabad, Sialkot, Gujrat and Rawalpindi. DEPO has recognized the reality and planned to “Club in” this tribe of industry so as to enhance the efficiency of this sector in defence export market. Planning of “Defence Vendors and Suppliers Exhibition” is an effort in the same direction so as to provide a facilitation platform to defence export industry. The project was initiated in year 2016, however, could not be implemented due to various commitments at that time frame. The same project is being re-launched in year 2018 and it will be a 3 days event on **16-18 August 2018** at Expo Centre Lahore.

10. **Seminar 2015 (2–3 December, 2015)**

- a. A seminar titled “**Public Private Partnership in Defence Production and Export: Challenges and Way Forward**,” was organized by DEPO in collaboration with Center for International Strategic Studies (CISS) on 2 - 3 December 2015. Spread over two days the seminar was inaugurated by the President of Pakistan, Mr. Mamnoon Hussain.

- b. The seminar was attended ambassadors, high commissioners other distinguished members from defense ministries, corporate sector, armed forces, international defense technology organizations, academia, research & training institutes as well as public and private sector industries involved in defense production.
- c. Policy Guidelines for formulation of “National Policy on Defence Production and Exports” were presented to MoDP on 8 June 2017.

11. **Seminar 2017.** Seminar-2017 “**Pakistan’s Defence Industry: Export Potential, Challenges and Prospects**” was planned by DEPO at Marriott Hotel Islamabad from 28-29 November 2017. However, the seminar was postponed by competent authority on 26 November 2017 due to the law and order situation in Islamabad.

12. **Engagement with Private Sector / Chambers of Commerce & Industry**

- a. Enhanced interaction with chambers of commerce since 2015.
- b. DEPO Team visited Chambers of Commerce & Industry in Lahore, Gujranwala, Gujrat, Sialkot, Karachi and FPCCI.
- c. Overwhelming positive response received and real increase of national exhibitors in IDEAS 2016 (61% increase) from 83 to 133.
- d. Additional Hall created private sector and Chamber Pavilions.
- e. Prime Minister greatly appreciated enhanced participation of private sector defence industry
- f. Suppliers and Vendors exhibition by Lahore and Gujranwala chambers

13. **Africa Day**

- a. Exploring new markets for defence exports Africa Day was organized on 30 April 2016 by DEPO in collaboration with MOFA.
- b. Ambassadors, Defence Attaches and Honorary Counsels of African Countries participated.
- c. Comprehensive briefing about Pakistan’s Defence Industry and incentives to participate in IDEAS.
- d. Initial focus on East African states of Tanzania, Uganda, Rwanda and Kenya.
- e. Africa Initiative was extended to AAD 2016 in South Africa in Sep 2016.

14. **DEPO DISPLAY CENTRE.** DEPO Display Centre was established in 2015 and was inaugurated by Federal Minister of Defence Production Rana Tanveer Hussain on 6 Oct 2015. 32 x Companies have established their stalls in DEPO display centre, which is frequently visited by foreign as well as local delegations. Foreign / Local Delegations have visited the DEPO Display Centre till to date are:-

a. **Details of delegation's visit to DDC**

Ser	Delegations	Date
1.	Inauguration Ceremony (42 x DAs and 31 x Delegations attended)	6 Oct 2015
2.	Delegation ex KSA (05x members)	20 Oct 2015
3.	Delegation of Allied Students ex Pakistan Naval War College (18x members)	27 Oct 2015
4.	Delegation ex China (10x members)	12 Nov 2015
5.	Visit to DDC during Seminar (Public / Private Partnership in Defence Production and Export)	2 Dec 2015
6.	Delegation of Nepalese Army Command and Staff College (23x members)	13 Jan 2016
7.	Delegation ex Third National Defence Session of Oman (22x members)	19 Jan 2016
8.	National Assembly Standing Committee on Defence Production	11 Feb 2016
9.	Newly Selected Trade Officers ex Ministry of Commerce (Pakistan Institute of Trade and Development) (43x members)	18 Feb 2016
10.	Delegation of Allied Students ex Command and Staff College Quetta (25x member)	29 Feb 2016
11.	Ambassador / DAs from African Countries on Africa Day, organized at DEPO	29 Feb 2016
12.	Allied Student from Pakistan Air War Course (10x members)	08 Mar 2016
13.	Student Officers ex Command and Staff College Quetta (52x members)	06 Apr 2016
14.	Delegation of Gulfstream	11 Apr 2016
15.	Delegation ex Belarus (05x members)	11 Apr 2016
16.	Delegation ex Egyptian Command and Staff College (25x members)	19 Apr 2016
17.	Delegation ex Nigerian National Defence College (19x members)	3 May 2016
18.	Delegation ex FTA of Egypt (06x members)	25 May 2016
19.	Delegation of Turkey (14x members)	30 May 2016
20.	Delegation ex Defence Services Command and Staff College, Sri Lanka (18x members)	05 Aug 2016
21.	Senate Committee on Defence Production visited DEPO Display Centre	13 Oct 2016
22.	Briefing to Military Attaches on IDEAS-2016	14 Oct 2016
23.	Delegation ex Royal Jordanian Command & Staff College	10 Jan 2017
24.	Delegation ex Sri Lanka Staff Talks (5x members)	16 Mar 2017
25.	Delegation ex Royal Jordanian National Def College (16x members)	30 Mar 2017
26.	Command & Staff College (61x members)	5 Apr 2017
27.	Kenya National Defence College (14x members)	10 Apr 2017
28.	Secretary General and Joint Secretary LCC&I (2x members)	21 Apr 2017
29.	Indonesian LEMHANNAS (3x members)	27 Apr 2017
30.	Visit of National Defence University, Zimbabwe Delegation	7 Jun 2017
31.	Command & Staff College of Omani visit to DEPO (23x	9 Aug 2017

	Members headed by Capt (Navy) Sultan Salim Said	
32.	Command & Staff College of Sri Lanka Course No. 11 visit to DEPO (16-20 Members)	15 Aug 2017
33.	Visit of 4x Members of Jordanian Delegation (KADDB)	3 Oct 2017
34.	Visit of Commerce & Trade Group Probationers to DEPO	9 Oct 2017
35.	Visit of Iranian Command & Staff College Delegation comprising 6x members headed by Brig Gen Hose Valivand Zamani	19 Dec 2017
36.	Visit Executive Committee Chamber of Commerce and Industry Rawalpindi	17 Jan 2018
37.	Visit of 5x Members of National Defence College, Rwanda Delegation	25 Jan 2018
38.	Visit of 7x members of Jordanian Log Delegation	13 Mar 2018
39.	Visit of Chief of General Staff of the Armed Forces of Kyrgyz Republic to DEPO	14 Mar 2018
40.	Minister Level Visit of CARs	20 Mar 2018
41.	General Instructions – Foreign Study Tour Royal Jordanian National Defence College to Pakistan (24 Mar – 31 Mar 2018)	26 Mar 2018
42.	Visit of Command and Staff College Delegation to DEPO	4 Apr 2018
43.	Visit of the Delegation from the Republic of Tajikistan	9 Apr 2018
44.	Visit of Chief of Mil Colleges and Institutes Qatar delegation	10 Apr 2018
45.	4 th Round of Pakistan - Maldives Staff Talks Delegation Visit to Pakistan	11 May 2018
46.	Nepalese delegation visit to DEPO	15 May 2018

b. **Details of Companies from Public and Private sector**

Ser	Company	Details
<u>PUBLIC SECTOR</u>		
(1)	GIDS	Global Industrial & Defence Solutions (GIDS) GIDS Office, SPD-II Complex Chaklala Garrison
(2)	POF	Pakistan Ordnance Factories (POF) Export Division Wah Cantt
(3)	HIT	Heavy Industries Taxila (HIT) Budget Marketing & Procurement Directorate, Taxila Cantt
(4)	PAC	Pakistan Aeronautical Complex Board (PAC) Distt: Attock
(5)	MVRDE	MVRDE P O Box 240 Abid Majeed Road Rawalpindi
(6)	ARDE	P O Box 194 Abid Majeed Road Rawalpindi
(7)	KS&EW	Karachi Shipyard & Engineering Works West Wharf Dockyard Road P O Box 4419 Karachi 74000
(8)	IOP	Institute of Optronics (IOP) Ministry of Defence Production Chaklala Garrison Rawalpindi Madame Rukhshanda
(9)	NRTC	National Radio Telecommunication Corporation (NRTC) T&T Colony Haripur
(10)	PMTF	Pakistan Machine Tool Factory P.M.T.F. Road, Off National Highway Landhi Karachi 75030
<u>PRIVATE SECTOR</u>		
(11)	PSM	Peoples Steel Mills Ltd (PSM) Javedan Nagar, Manghopir, Karachi – 75890
(12)	PAF Project Vision	Director Project Vision AHQ, Islamabad
(13)	Panaforce	MRE C/O HQ ASC Centre, Nowshera Cantt
(14)	SECDIV (MoFA)	Ministry of Foreign Affairs, Foreign Office Building, Constitution Avenue, G-5, Islamabad
(15)	Military College of Signal	Military College of Signal Rawalpindi
(16)	Military College of EME	Military College of EME Rawalpindi
(17)	Army (Training)	MT Dte (MT-2B),GHQ, Rawalpindi
(18)	CO PNS Zafar Navy (Training)	PNS Zafar
(19)	Air Force (Training)	Dte of Move / Trg, Personnel Branch AHQ Islamabad
(20)	Fast Cables Lhr	Fast Cables (Pvt) Ltd 192-Y, Commercial Area DHA Lhr
(21)	East West Infinity	East West Infinity (Pvt) Ltd 146 Industrial Triangle Kahuta Road Humak, Islamabad
(22)	Metasco Intl	Metasco International Post Box 2460, Capital Link Road, Deen Pura, Sialkot – 51310
(23)	SARG	South Asian Resources Group

Ser	Company	Details
		84-C, 3 rd Floor. 21 st Commercial St Phase 2 Ext DHA Karachi
(24)	Care	Centre for Advanced Research in Engineering (Care), Sir Syed Memorial Building 19-Ataturk Avenue Sector G-5/1, Islamabad
(25)	Daudsons Armoury	Daudsons Armoury (Pvt) Ltd Plot no 27 – 28 A, Industrial Estate Kohat Road Peshawar
(26)	Afridi Arms	Village and Post Office: Dara Aadam Khel Sharki F.P. Kohat (KPK) Cell : 03339229924
(27)	Akhtar Industries	Akhtar Industries Akhtar Mansion 1775 Tariq Road Sialkot
(28)	National Sys	Dte Gen ISI (Section 620 Islamabad
(29)	Askari Shoes (AWT)	Army Shoe Project 41 Peco Road Kot Lakh Path Lahore
(30)	Soft Innovative Systems	Plaza 4, Ali Heights Jinnah Boulevard Islamabad Imran 03405557620
(31)	Shibili Electronics Ltd	House No 24, Street No 17, Sector F/7-2 Islamabad
(32)	Service Industries	Mr Kashif

The Ministry has initiated legislation for making DEPO a permanent institution.



**Pakistan
Ordnance Factories Wah
(POFs)**



1. PAKISTAN ORDNANCE FACTORIES BOARD

Established in 1951 Pakistan Ordnance Factories (POF) is a major defence industrial Complex of Pakistan. POF has grown into an expansive set up of 14 mainstream factories and various commercial subsidiaries, involved in production of conventional and automatic weapons, ammunition and explosives. As a Joint-Venture the subsidiary units of POF includes Wah Noble, Wah Industries Limited, Hi-Tech Plastics, Brass Mills and Attock Chemicals. Besides various industrial and commercial ventures POF has a huge Welfare Organization involved in the wellbeing of its employees. The industrial setup and commercial units are run by POF Board, whose main function is to manage and administer the affairs of factories and meet the needs of the defence forces of Pakistan. The Factories include:

- **Medium Artillery Ammunition**
- **Heavy Artillery Ammunition**
- **Tank/Anti Tank Ammunition**
- **Bombs & Grenades**
- **Small Arms Ammunition**
- **Small Arms**
- **Machine Gun**
- **Explosives**
- **Propellant and Fuze**
- **Tungsten Alloys**
- **Brass Mills**
- **Clothing**
- **Filling**
- **Carbide**

2. Change of Command in POF

Lt Gen Sadiq Ali, HI(M) took over the charge as Chairman POF Board on 31st January'2018. In a ceremony held at POF Auditorium Lt Gen Umar Farooq Durrani, HI(M) handed over the charge of Chairman POF to Lt Gen Sadiq Ali, HI(M) by presenting him POF Flag.





3. Range of Products

A total of 73 products are developed and produced by POF which include:-



➤ Weapons

- Rifle G3A3/G3P4 (7.62 mm x 51 Calibre)
- Machine Gun MG3 (7.62 mm x 51 Calibre)
- Sub Machine Gun MP5A2/P3 (9 mm x 19 Calibre)
- SMG PK & PK1 (9x19mm Calibre)
- 12.7mm AA Anti Aircraft Gun
- POF Eye
- SMG PK (7.62X51mm)
- Designated Marks Man Rifle (DMR) (7.62x51mm)
- Pistol POF 4/5
- Pistol PK – 9



b. Small Arms Ammunition

- 7.62 mm x 51 Carton Packed
- 7.62 mm x 51 Link Belted
- 7.62 mm Blank
- 9 mm x 19 (1Z & 2Z)
- 7.62 mm x 39mm-SMG
- 7.62 mm x 39mm-SMG Blank
- 7.62x51mm HMG
- 7.62x54mm (Ball & Tracer)
- .308 WIN 150/165/175 Grain



c. Artillery Ammunition

- 25 Pdr HE & Blank
- 105 mm (HOW), HE Smoke and Blank
- 122 mm HE HOW and 122 mm D30 Ammo
- 122 mm HOW Training
- 130mm HE Gun Ammo RC & FC
- 155 mm HOW HE M107
- 155mm HOW Training



➤ Mortar Bombs

- 60 mm HE & Smoke WP, Illu, Signal (Red & Green)
- 60mm Mor Inert
- 81 mm HE & Smoke WP, Illu
- 81mm Mort Inert
- 120 mm HE & Smoke WP
- 120mm Mor Inert



➤ Aircraft Bombs, Aircraft & Anti Aircraft Munitions

- 500 Lbs – Mk 82 Aircraft Bomb
- 6 Kg Practice Bombs
- 25 Lbs Practice Bombs
- 23 mm Ball & HEI
- 30mm HEI, API, Ball
- 37 mm Anti Aircraft
- 12.7 mm x 108 API & APIT



➤ Tank & Anti Tank Ammunition

- 125 mm APFSDS
- 125 mm HE TK
- 105 mm APFSDS
- 105 mm HE
- 106mm RR Training Rds



➤ **Rockets**

- Rocket Propelled Grenade 40 mm HEAT (RPG-7P)
- 73 mm Recoilless at Grenade (SPG-9P) HEAT
- 73mm SPG-9 HE



➤ **Grenades, Pyrotechniques & Mines**

- Hand Grenade Arges 84
- Grenade Target Indication, White, Red, Yellow, Green Orange, Blue
- Grenade Hand/Discharger WP P3 Mk-1
- Remote Control Fragmentation Device
- Flare Trip Wire



➤ **Military Explosives & Propellants**

- Black Powder
- TNT, RDX, Compo B, Tetryl, Nitroguanidine, PETN
- Single, Double and Triple Base Propellants
- Ignition Charges

➤ **Commercial Explosives (Wah Nobel)**

- Emulsion Explosives, Dynamites
- Powder Explosives
- Blasting Accessories, Safety Fuze Cords
- Detonating Cords
- Detonators (Plain & Electrical)
- Leher Ignition System

➤ **Commercial Products**

- Brass items i.e Rods, Pipes, Plates, Sheets & Extrusions
- Gilding Metal Clad Steel Strips
- Tungsten Carbide Tool Tips, Nibs & dies
- Chemicals (Polymers)

d. **Sporting Ammo** 12 Bore Cartridges (4,6,8,7 Skeet, 9 Trap, BB, SG, LG and 4,6 & Super)

➤ **Garments**

- 1) Personal Load Carrying Equipment (PLCE)
- 2) Camouflage Combat Dress (CCD) & Stitching Uniforms of LEAs/CAF
- 3) Bullet Proof Jackets
- 4) Mosquito Nets
- 5) Industrial working dress
- 6) Gowns etc

4. **HRM Dte**

Progress / functions pertaining to the financial year 2017-18 is tabulated below:-

Sr. #	Event	Officers	Staff/REs
1.	Temporary Move	1150	309
2.	Updation of personal files	484	2134
3.	Discipline cases processed / completed	11	34
4.	Pension claim / family pension	288	1486
5.	Benevolent Fund	30	341
6.	NOC Higher studies	39	17
7.	Termination of probation	39	--
8.	Fixation of pay	39	914
9.	NOC for Umrah / Hajj / E-Pak leave	73	120
10.	Leave Ex-Pak	42	95
11.	MoDP cases	19	06
12.	Extension in contract period	89	726
13.	Termination of contract	--	17
14.	Revision of pension cases	16	79
15.	Farewell grant	172	551
16.	GP Fund cases	64	90
17.	Marriage grant	02	216
18.	Direct credit scheme	269	939
19.	Trainings	64	1187
20.	Appointments (Permanent / contract)	06	32
21.	PM Assistance package	--	74
22.	Condolence messages	--	25
23.	Regularization of contractual employees	--	296
24.	Contract employees supplementary bills	--	2107
25.	Processing of retired employees Fy card	--	376
26.	Monthly acquaintance roll of RTEs	--	180
27.	Issuance / renewal of temp / permanent Fy pass	--	58
28.	Verification of PVRs	--	89
29.	RTEs establishment matters cases	--	186
30.	Re-Instatement	--	44
31.	Notification of promotion D.O in respect of Officials (BS-16 & below)	43	562
32.	Posting of newly inductees	--	207
33.	Notification of posting / transfer D.O in respect of officials (BS-16 & below)	--	2856
34.	Regularization of intervening period between the date of promotions to the date of joining report & retention / adjustment of promotees / transferees	--	25
35.	Collection & checking of CR dossiers / service records for promotions	--	860
36.	Miscellaneous correspondence with factories / group through letter / notes	--	50
37.	Maintenance / up-gradation of seniority up to BS-16 on account of posting, transfer and retirement etc.	--	600
38.	Preparation of minutes of DPCs	--	452

39.	Preparation of proceeding for promotions in respect of various categories	--	860
Total		2939	19200

6. Financial Highlights

a. POF Annual Budget grant from GOP for the FY 2017-18

For the FY 17-18, POF received an annual budget grant of Rs.33,295.924 Mn against approved Budget Estimates (BE) of Rs. 44,809.292 Mn. The fiscal deficit of Rs. 11,513.368 Mn (i.e. 25.7 % of BE) was augmented through injection of Rs. 9,587.038 Mn from POF self generated funds.

b. Deposits with State Bank of Pakistan:

Government of Pakistan has allowed POFs to retain funds generated from its own sources in the following heads of accounts with SBP for expenditures in connection with production and promotion of POF products meant for domestic and international sales:

i) Revenue, Debt and Remittance(R, D&R):

All receipts on account of domestic commercial sales and earnings from supply of Arms & Ammo to LEAs are deposited in it. The current available balance is Rs. 7,184.612 Mn.

Last 05 years funds position in R, D&R is as follows:

(Rs. in Million)

Year	Opening Balance	Receipts	Expenditure	Closing Balance
2017-18	7,488.383	7,576.667	7,880.438	7,184.612
2016-17	6,847.390	3,994.350	3,353.357	7,488.383
2015-16	3,256.222	5,967.737	2,376.569	6,847.390
2014-15	2,709.477	2,669.380	2,122.635	3,256.222
2013-14	1,391.521	2,185.716	867.760	2,709.477

ii. Special Deposit Fund (SDF):

Foreign currency head of account (FE) at State Bank of Pakistan for revenue generated from POF exports to friendly countries. The current available balance is Rs. 9,902.837 Mn.

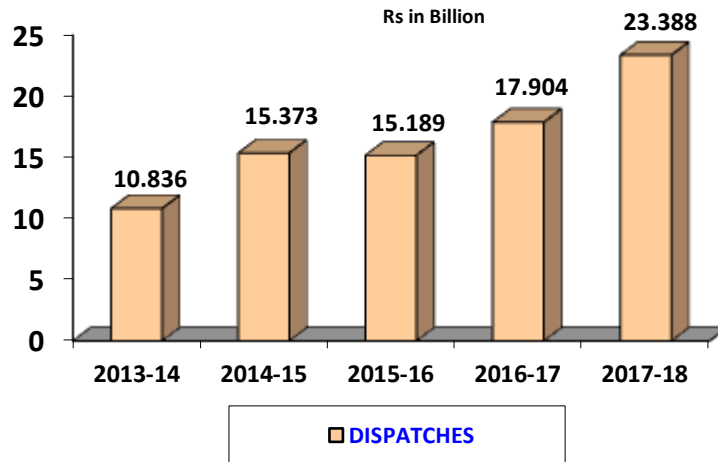
Last 05 years funds position in SDF is as follows:

(Rs. in Million)

Year	Opening Balance	Receipts	Expenditure	Closing Balance
2017-18	8,942.733	2,666.704	1,706.600	9,902.837
2016-17	10,868.296	1,970.355	3,895.918	8,942.733
2015-16	7,577.396	5,986.138	2,695.238	10,868.296
2014-15	7,577.252	2,538.359	2,538.215	7,577.396
2013-14	7,534.580	1,086.970	1,044.298	7,577.252

7. Production Targets

Armed Forces of Pakistan set the Production Targets of **Rs. 24,216 Mn** for the year 2017-18 as a result, combined dispatches were made to the tune of **Rs. 23,388 Mn**. Below is the data of last five years:-



Dispatch value of local sales against LEAs/CAFs is **Rs. 1583 Mn**.



8. Wah Brass Mills (Private) Limited (WBM)

Statistics reflecting its business profile for the year 2017-18 are tabulated as under:-

(Rs. In Million)

Activity	Volume
Sales to POF	1,634.00
Domestic Sales	197.00
Exports	115.00
Taxes Deposited	465.00

All facilities extended to POF employees were also extended to WBM employees.

9. **Efficient Procurement**

Saving through Efficient Purchase of worth Rs. **53.923** Million was achieved without compromising on quality during 2017-18. The detail is as under:-

(Rs. in Million)

Procurement Nature	Saving
Indigenous Purchase	32.203
Foreign Purchase	21.720
Total	53.923

10. **POF Services Group:**

Services Group is responsible for provision of following centralized services:

- a. Generation and Distribution of Electricity
- b. Generation and Distribution of Steam
- c. Telecommunication, Instrument & Electronics Services
- d. Transport Services
- e. Fire Fighting Services
- f. Reconditioning Services
- g. Fabrication & Water Supply
- h. To keep the machinery in operation by timely repair/maintenance.

Performance of Services Group during 2017-18 is appended below:-

a. **Energy Conservation**

i) **Power House**

Efforts were made for efficient / smooth operation of Power House, resulting following generation of electricity & steam were made during the period 01.07.2017 to 30.6.2018.

Total Electricity Generation	=	84.3 Million KWH
Annual Savings (Rs)	=	168 Million
Total Steam Generation	=	524 Million Kg

ii) **New Gas Genset Power Plant Capacity 7-8 MW**

Installation & Commissioning of New Power Plant has been completed & Power Plant is functional. Advantages/statistics are appended below:

- Generation/Day : 182400 kwh/day & 63 Million Kwh/Year
- Annual Savings(Rs) : 378 Million
- Pay Back Period : 1.4 Years
- Reduction in WAPDA Billing

b. **Major projects / achievements**

• **SCADA SYSTEM**

Installation & Commissioning of SCADA System has been completed & system is functional since 13-12-2017. The project materialization results in advance substation protection & reduced time for restoration of electricity in case of breakdown thus reduces the risk of production loss. Continuous Monitoring of Electric Load at Primary & Secondary Substations helped to balance the loads at different routes thus improving distribution efficiency.

c. **Telecommunication Services**

i) **Progress of Projects.**

- Rehabilitation work of secondary copper telephone cable network in West Park area.
- Installation of DSLAM for provisioning of internet facility on POF network at West Park.
- Laying of primary copper telephone cable from CMC to Weapon Gate Cabinet.
- Installation of OPNET for provisioning of digital Telephone facility on POF network at West Park.
- Laying of primary copper telephone cable from CMC to FIU 699 HQ.
- Laying/termination of 10/20 pair cable for DPs of Filling and Engineering factories DPs.
- Laying of secondary 20 pair U/G copper telephone cable & OFC (24core) from CP Lala Rukh to POF Guest House.
- Revamping of old internet wiring of C-04 & BOB and all Telephone Housing and in estate area.
-

ii) **Quantify Saving in Expenditure (2017-18)**

Annual Expenditure (Trunks lines + DSL + EVO) borne by POF during 2016-17	Rs. 9,423,895/-
Annual Expenditure (Trunks lines + DSL + EVO) borne by POF during 2017-18	Rs. 8,448,566/-
Saving	Rs.0.97 Million

d. **ED Section**

- Installation of 100 Watt LED Light at Rehri Bazar.
- Rearrangement of Power Supply for control Room (C&CC) Station H.Q.
- Electric Wiring Traffic Signal at POF Guest House Chowk Wah Cantt.
- Installation of P-521 MICOM feeder protection Relays on other end of 11kv feeder for new SCADA system inside Factory/Estate Area.
- Lying of HT cable between SS-I & SS-2 (D-02 Shop).
- Installation of Poles & LED Light at 10-G Area.
- Replacement of Copper Conductor with Aluminium Conductor LT & HT O/Head line in Estate Area for up-gradation of Electric distribution network.
- External Power Supply arrangement for monitoring and control centre at POF Wah Cantt.
- Provision of External Power Supply arrangement for DCW Directorate.

- Replacement of old Analogue Street Light Timers with digital electronic timers in Estate Area.
- Replacement of transformers at SS-17A, SS-19, SS-15A.
- Development of Parks in 27 & 14 Areas Flats.
- Shifting of energy Meters outside quarters in Estate Area (23 and 24 Area and DSG quarters) to increase the recoveries.
- Replacement of Old energy Meters with New Digital Energy Meters at GM House, ND House, Swat & Sirkup Mess, and DSG & CMD Quarters for up-gradation of Electricity_Network.

e. **ME (D-10) SHOP**

Under-mentioned Jobs/operations carried out at Maint-Electrical Shop.

Major Projects

- Electrification & provision of Power Supply to newly installed Compressor at D-02 / SAA Factory.
- Electrification of Room No 2121 to 2125 HRM and OD Deptt. at C-04.
- Provision of Electric Panel at BOB Fountain.
- Provision of Electric power supply to new Firing Range Tunnel in G-40 Proof Range.
- Installation of 03 x new Diesel Generator Sets at Flag Staff House, POF Guest House & BOB.
- Provision of power supply to Hydraulic System at Store Gate.
- Provision of Power Supply to Mammography Machine at POF Hospital.
- Internal/External Electrification and Lighting Arrestors at new Power Plant 7-8 MW.
- Provision of Electric wiring to 13 x Telephone Exchange's Posts & Housings.
- Installation of Lightning Arrestors at Main Telephone Exchange C-04.

f. **Transport**

i. **Overhauling /Major Repair/ Denting Painting of Vehicles**

No. of vehicles attended for major repair work and engine overhauling	378
No. of vehicles attended for denting / painting and minor repair work	3029
Vehicles attended for schedule service / maintenance	1221
Total	4,628

ii. **Fuel Economy**

- Procurement of new vehicles under replacement plan and accordingly disposal of old vehicles having excessive fuel consumption.
- Curtailment in payment duties.
- Control over misuse of Transport.
- Revision of monthly mileage limits and fixation of fuel limits for all units of POFs
- In order to exercise appropriate control in the use of transport, monthly mileage and fuel (Diesel, Petrol, CNG) limits for all units of POFs have been revised for next 03 x years during the month of October,2018.

iii **Misc Jobs**

Transport Services were successfully managed for various duties including VVIP/VIP visits, senior officials, ammunition / store dispatches, proof firing, welfare duties, essential Services, security duty etc.

In order to replace the old vintage vehicles and slow/earth moving machinery of POF Transport fleet to cater the operational, security and VVIP / protocol duties, case for Procurement of 99 x operational vehicles and 21 x special vehicles & slow/earth moving machinery has been processed during the year 2017-18.

g. **Safety & Fire Fighting Activities**

Safety lectures to all factories at shop level

• Mock Exercise	:	04
• Fire Coverage at events	:	18
• VVIP visit	:	12

Fire Services provided during the year 2017-18

Minor	-	108
Major	-	11
Total	-	119

Arranged First Aid Fire Fighting, Lecture on Fire Prevention and Disaster Management to POF Employees

- Main Fire Station	:	1026
- Wood Working Fire Station	:	543
- Explosive Fire Station	:	352
- Filling Fire Station	:	495
- Clothing Fire Station	:	<u>526</u>
Total	:	2942

h. Reconditioning Services

Following machines were refurbished / manufactured during 2017-18:

(Rs. in Million)

Sr. #	Description of Machine	Cost of New Machine	Reconditioning Cost	Saving
1.	Kneading Machine	4.0	0.13	3.869
2.	Lead Core Machine	54.6	0.916	53.685
3.	Lead Core Machine	54.6	0.916	53.685
4.	Circular Saw Machine	1.0	0.501	0.499
5.	Wire Bending Machine	1.50	1.129	0.371
6.	CNC Lathe Machine MD-6S	170.0	83.15	86.15
	Grand Total	285.7	86.74	198.25

i. Welfare measures (Svs Gp)

POF Loan scheme	-	Rs. 12,00,000/-
Grant on death of a serving POF Employees	-	Rs. 5,40,000/-
Total	-	Rs. 17,40,000/-

11. Health, Safety & Environment (HSE Dte)

Performance highlights pertaining to HSE Dte are appended below:

- Adoption of UN classification system for handling, transportation and storage of Ammo & Explosives within POF.
- Preparation of POF's Health, Safety & Environmental Management manual and arranging a series of presentations within all production units to inculcate awareness on the subject.
- Convening & hosting of Inter Services Armament & Explosives Committee (ISA & EC) meeting at POF Wah held from 10th to 13th July 2018.
- Convening of workshop on HSE during safety week held on 23rd Oct 2017 to 3rd Nov 2017.
- Attaining of ISO certification of 08 new departments of POF namely HSE Dte, POF Hospital, DCW, HRM Dte, Admin Dte, POFIT, Wah Medical College & Wah Brass Mill (Pvt) Ltd.
- Imparting of in house training on modern fire fighting & suppression techniques with the collaboration of Pakistan Civil Defence Organization.
- Demolition of 1126369 (No. Of different Ammo/Ammo components) redundant & obsolete ammo in POF till 30th of June 2018.
- Preparation of General Fire Rules 2018.
- Mock exercises attended (04 Nos).
- Extended fire coverage to 18 Nos. events.
- Delivered lectures on first aid, fire fighting, fire prevention & disaster management to 2942 POF employees.

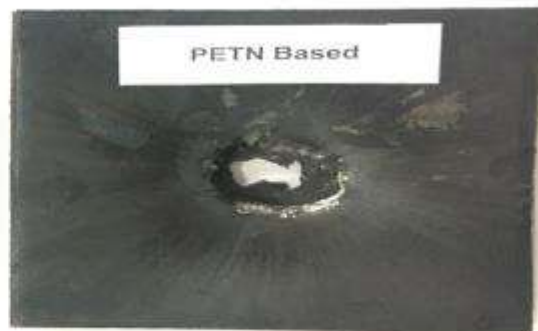
12. R&D Dte

For the purpose of increasing scope and potential of Defense Production, Research & Development is considered as a backbone of any industry. During 2017-18, following achievements were made:-

Rapid Wall Breaching Explosive

A demolition charge used for cutting, breaching and other explosive ordnance disposal activities. It is mouldable and is especially suited for cutting irregularly shaped targets. The adhesive backing allows the charge to be attached to any flat, clean, dry surface.

The Rapid Wall Breaching Explosive Kit is useful for commando operation and in closed combat conditions. Presently, this Kit is not available from any others source. The cost is approximately Rs. 35,000/- against imported Kit Rs. 1, 05,000/-. This project thus saved Rs. 70,000/-.



13. Exports

1. Fluctuation in export business is a natural phenomenon and especially in export of defence hardware. Geostrategic / geopolitical situation around the globe has direct concern with the increase or decrease in defence exports. The second major factor is the availability of defence store(s) and short delivery period as per requirement of the customers.

2. Exports during FY 2017-18 in spite of various odds, remained satisfactory. Introduction of new SOP by MoFA, GoP regarding verification of End User Certificate / Import permits from Ministry of Foreign Affairs and Pak Mission of the respective country is not being appreciated by the customers from European and American countries. It is pertinent to mention that owing to the capacity limitations and non-availability of raw materials, essential components / parts, production factories give long DP against prospective export inquiries. For the reasons, Exports Department

regretted number of RFQs worth US \$ 85.00 Million in FY 2017-18. The breakdown of exports made during 2017-18 is portrayed below:-

a.	Total Value of Contracts	=	US \$ 58.115 Million
b.	Despatches Made	=	US \$ 23.544 Million
c.	Orders under Production	=	US \$ 34.571 Million

3. Following International Defence Exhibitions were attended by POF during FY 2017-18:-

- a. Army Russian
- b. DSEI – UK
- c. BIDEK, Bahrain
- d. D&S, Thailand
- e. DSA, Malaysia
- f. SOFEX, Jordan
- g. Eurosatory, France

4. As a result of regular participation in Shot Show Expo, POF made a reasonable space in US Civil market and have successfully been exporting sub machine guns MP-5 & PK (Semi auto) in handsome quantities. Another achievement was the meaningful discussions with MoD Tajikistan, Turkmenistan and King Abdullah Development & Design Bureau, Jordan, who showed keen interest in establishing indigenous manufacturing units of Small Arms, Small Arms Ammo and Military Garments Stitching facility. The proposals are being carried out seriously, which will ultimately be a source to generate F.E.

5. In addition to above, after a pause of eighteen years, ultimately we have been able to revive the export of defence stores to Turkey. First time, POF concluded a contract for supply of GP Bombs PK-83, qty. 1,000 Nos. to Turkey. Partial shipment has been made while remaining are in pipeline. Value of contract is US \$ 5.703 Million. Besides, Czech Republic & Poland first time have been included in export list of POF.

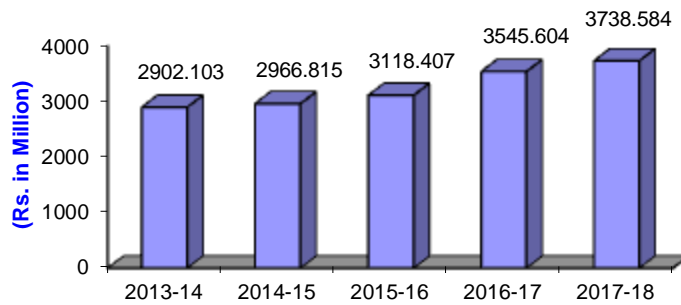
Commercial Production

14. Wah Industries Ltd., (WIL)

It is matter of great satisfaction to present an overview of company's activities, business affairs and financial results achieved during the year 2017-18 i.e. w.e.f. 1st July 2017 to June 30th 2018 in comparison with the corresponding period of the year 2016-17. Comparisons of the sales are as under:-

(Rs. in Million)

Item	2017-18	2016-17	%age Inc/Dec
Civil Product	115.161	153.993	(25.2)
Project	605.548	216.049	180.28
Chemicals	501.295	460.770	8.8
Arms & Ammo	923.083	1030.255	(10.40)
Ammo Containe	545.988	768.424	(29.00)
12 Bore Ctgs	726.547	673.822	7.83
Disposal	318.917	242.291	31.63
Overall Sales	3738.584	3545.604	5.45



15. **Wah Nobel (Pvt) Ltd.**

Wah Nobel is a Pvt Limited Company in which Wah Industries Limited (WIL) hold majority share 51.75%, while SAAB Dynamic AB of Sweden and Almisehal commercial group of Saudi Arabia are other shareholders with 27.23% and 21.02% shares respectively. The sales during FY 2017-18 were Rs. **2,923.798 M**. The sales increased by 26.64% vis-a-vis previous FY 2016-17 (increase Rs. 615 Million). After tax profit (expected) during the FY 2017-18 Rs. 762.749 M (unaudited) vis-a-vis Rs. 602.949 M during the previous year (increase by 26.50%

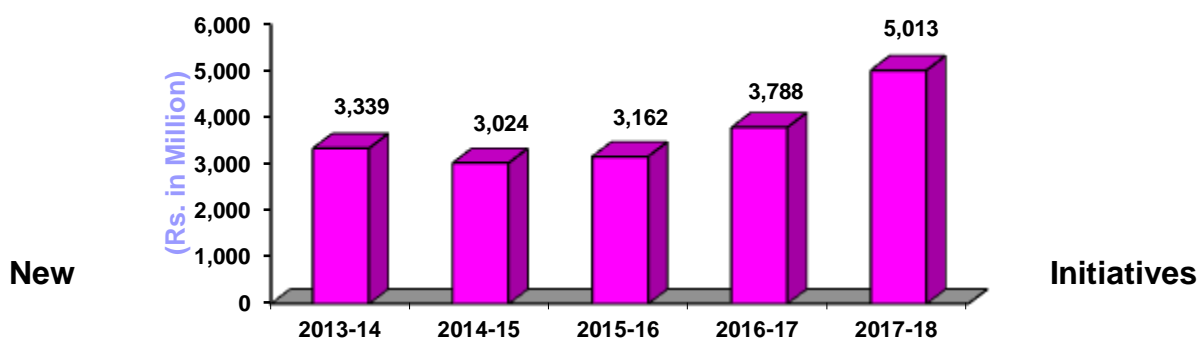
a. **M/S Wah Nobel Chemicals Ltd.**

Wah Nobel Chemicals Ltd is a public limited listed Company. Wah Nobel (Pvt) Limited has 55.23% shares, while the remaining 44.77% shares are held by various institutions and General Public. The sales during FY 2017-18 were Rs. **1,985.621 M**. The sales increased by 34.49% vis-a-vis previous FY 2016-17. After Tax profit (expected) during the FY 2017-18 is Rs. 180 Million vis-a-vis Rs. 131 M during the previous year 2016-17 (increased by 37.40%).

b. **Wah Nobel Group – Financial profile summary**

(Rs. in Million)

Sr. #	Description	Amount
i.	Export (WNPL & WNCL)	308.696
ii.	Sales (Domestic) WNPL, WNCL & WNAL)	4,704.714
iii.	Revenue Generated (WNPL, WNCL & WNAL)	5,013.410
iv.	Tax deposited in ex-cheque (this includes: Income tax, excise duty sales tax, VAT etc.) (WNPL, WNCL & WNAL)	1,188.806



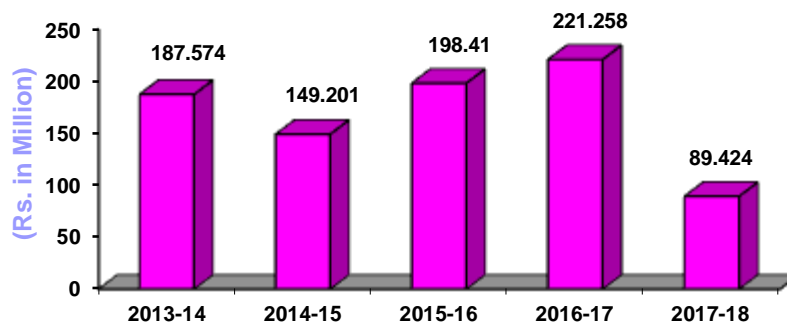
- New Urea Formaldehyde Moulding Compound (UFMC) line-2 with production capacity of 3,000 M. Ton per annum was commissioned on 1st Aug, 2017.
- Formaldehyde plant of 50,000 M. Ton per annum capacity being installed. Civil works for plant building and related infrastructure completed. Plant being installed by Chinese engineers and expected to go live by October, 2018.
- Joint Venture Gezhouba Wah Nobel Blasting (Pvt.) Ltd established in Mar, 2018 for provision of blasting services on the mega infrastructural projects i.e. Hydro Power Projects, Tunnelling and Mining Sector.
- Wah Nobel installed / commissioned 80kwp solar power plant at the University of Wah as EPC contractor. The power plant is operational since April 2018.
- The SAP system has been installed at estimated cost of Rs. 6.5 Million for 24 users. The project is operational.

Welfare Measures

- Financial assistance of Rs. 3,000 for employee's children who are studying in Rawalpindi / Islamabad College / Universities.
- 04 employees of Wah Nobel Group are selected through balloting to perform Umra at the company's expense every year.

16. Hi-Tech Plastics (Pvt) Ltd.

Manufactures various packaging, Containers, Carriers for Ammo and plastic parts of ammos. It has injection, blow moulding machines and extrusion facility. Sale for the last five years is appended as under.



Sales during the year 2017-18 have decreased due to certain snags in production. In this connection it is pointed out that HTP machines are of old vintage and the efficiency of production has reduced. Moreover, the slight change in the inspection procedure has caused delay in production. Thus, the production rate has decreased in the year 2017-18. Now, the production activities vis a vis machinery and inspection procedure are settled, therefore, the production will be running smoothly in the current year of 2018-19

17. **POF Institute of Technology (POFIT)**

The POFIT imparts training to Officers, Staff and employees of POF on regular basis. In addition, different courses of varying duration are also run for general public and other departments. The details are as:



Sr.#	Training Programme	No. of beneficiaries
a.	46 In-House Trainings for POF Officers at POFIT	1187
b.	In service short courses (POF Candidate)	169
c.	Short Courses for Private candidate	61
d.	Artisans Training	286
e.	Internship of University Students	688
f.	DAE Students	1359
g.	Services to WEC Students	714
h.	Coaching for & Evaluation of Officers, staff, and Workers for Departmental Promotion Examination. (Technical/Auxiliary/ Admin)	248
Total:		
4712		

18. **Admin Deptt. (Welfare Activities)**

POF undertakes a number of Welfare measures for its employees and spend huge amounts in addition to their normal entitlement of pension, Group Insurance Benevolent Fund & P.M Assistance Package. In 2017-18 following activities were carried out:-

Nomenclature	No of beneficiaries	Total Amount 2017-18 (Rs. in Million)
Wards marriage grant	436	13.015
Merit scholarships	655	4.529
Death grants (Self)	06	0.350
Death grants (Family members)	57	0.484
Payments of shuhada	81	1.296
Charity meal	28950	1.013
Tri-Motorcycle	02	0.080
Financial aid on medical treatment	05	2.802
Wheel chair	04	0.027
Honorarium	26,000	999.289
Awarded 75% fee concession to POF employees sons/daughters of POF employees through WEC	27	1.37
Awarded 75% fee concession to POF employees sons/daughters of POF employees through COMSATS	148	4.12

Paid House Building Advances	71	19.958
Paid Car Advances	7	2.243
Paid Motor Cycle Advances	37	1.697
Paid Bicycle Advances	14	0.137

19. Medical Cover

POF Hospital was established in 1962 with an initial capacity of 100 beds this capacity increased to 203 beds in 1963, 400 beds in 1969 & 500 beds in 1987 respectively. It was designated as teaching hospital for Wah Medical College in 2004. Existing bed strength is 648 due to introduction of new departments over successive years. Now it is a modern tertiary care hospital providing teaching facilities to Wah Medical College. The facilities extended after 1987 include Urology Deptt., Coronary Care Unit, Burn Centre, Neonatal intensive care unit, Dialysis Unit, Endoscopy Deptt., Oncology Ward, Neurosurgery ward, Orthopaedic Deptt., ICU, CSSD, CT Scan, MRI and Emergency Medicine. The hospital is responsible to provide healthcare facilities to serving/retired POF's employees & families/parents of the employees, army personnel posted to POFs (including their families/parents) and employees of Allied Deptts. like CMA, IDA etc. Approximate entitled population is 2,50,000.



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a. Work Load Statistics:

Workload during FY 2017-18 is as follow:

Sr. #	Department	Total	Average per day
1.	Out patients	5,20,282	1425.43
2.	Hospital admissions	36,708	100.56
3.	Dental treatment	35,334	117.78
4.	Pathology lab	1,276,340	3496.82
5.	Radiology		
	X-Ray	27,587	75.5
	USG	20,000	54.79
	CT Scan	4,508	12.35
	MRI	2,632	7.21
6.	ETT	673	6.73
7.	ECHO	3,331	33.31
8.	Endoscopy / ERCP	906	9.06
9.	Bronchospy	153	1.53
10.	Haemodialysis	4,537	15.0
11.	Surgical operations	11,973	39.91
12.	Physiotherapy procedures	36,000	120

b. **Achievements and Renovation 2017-18**

- Establishment of Neurosurgical ward
- Procurement & installation of Mammography unit
- Procurement of 70 x patient shifting trolleys
- Procurement of Air Fluidized beds for burn center
- Expansion of Accident & Emergency department
- Procurement & installation of 4 x Modular Operation Theatres
- Up-gradation & installation of new HMIS Software
- Repair / renovation of Hospital sewerage line
- Construction of new OPD block

20. **Sports**

POF Wah having a rich culture of sports is known as hub of sports activities due to outstanding infrastructure available for almost all sports events. POF Sports has produced a number of players who represented Pakistan at International level in the past. This sports trend brought good name for POF at National level. It is pertinent to mention here that some international sports events such as SAF



Games, International Squash, Tennis, Kabaddi and Volleyball were held at Sports facilities of POF, which speaks about the confidence of various National Sports Organizations in POF Sports Board Management skill and expertise.

Presently POF Wah has become the leading department of the country by organizing International/National tournaments which definitely contributed to promote the soft image and good name of our country amongst the regional countries. In fact, POF seems the only organization in Pakistan making energetic efforts to attract youth in all sports, for which POF Sports Board has organized International/National & local sports events:

a. **Local Tournaments**

- 1) 49th POF Inter Factory/Group Competitions - 2017. (14 events)
- 2) POF Sports Board Open Hockey tournament - 2017
- 3) POF Sports Board Cycling competitions - 2017 (Defense Day)
- 4) POF Sports Board Swimming competitions - 2017
- 5) POF Sports Board Open Kabaddi championship - 2017
- 6) POF Sports Board Wah Open Table Tennis tournament - 2017
- 7) 4th POF Sports Board Floodlit Tape Ball Cricket Tournament 2018.
- 8) POF Sports Board Wah Open Squash tournament - 2018
- 9) POF Sports Board Wah Open Marathon (23rd March 2018)
- 10) POF Sports Board Wah Inter Club Football tournament - 2018
- 11) POF Sports Board Wah Open Badminton tournament - 2018
- 12) POF Sports Board Wah Inter Club Basketball Tournament - 2018
- 13) POF Sports Board Bodybuilding competition - 2018

b. **National/International Events**

- 1) Chairman POF Board National Ranking Tennis Tournament - 2017
- 2) Chairman POF Board National Men's Squash Tournament - 2017
- 3) Chairman POF Board National Women's Squash tournament - 2017
- 4) Chairman POF Board National Volleyball tournament - 2017
- 5) POF Volleyball Team participated in all Pakistan tournament - 2017 at Kamaliya
- 6) POF Football team participated in National Football championship - 2018 (Karachi)
- 7) POF Cycling team participated in National Cycling championship at Peshawar & tour de Khunjrab Cycle race (Gilgit to Khunjrab) - 2018
- 8) POF Basketball team participated in National Basketball championship - 2018 (Lahore)
- 9) POF Kabaddi team participated in National Kabaddi Championship - 2018 (Lahore)

The facilities available with POF Sports Board are being utilized to engage the youth in Volleyball, Basketball, Hockey, Athletics, Football, Squash, Tennis, Cricket, Table Tennis, Badminton, Cycling, Swimming, Health & Fitness Centre with provisioning of free coaching and sports gear.

POF Sports Board also provides its venues to Federal schools, colleges and universities free of cost. In addition to above POF management is working hard for promotion of Sports and the good name of Pakistan, by adding Astroturf for Hockey to attract International players and to build soft image of Pakistan.

21. **Welfare Trust**

POF Welfare Trust is administratively and financially managing the affairs of its operational projects and 4 x autonomous projects as per following:-

11 x

Operational Projects

- Welfare Transport Service
- Izzat Ali Shah (Female) Hospital
- Welfare Filling Station
- Welfare Computer Centre
- Welfare Club-II (Marriage Hall)
- POF Welfare Pharmacy
- POF Montessori School
- IAS(F) Hospital Medical Store
- Welfare Charity Fund
- Welfare Shops
- CNG Station (GASCO 2000)

Autonomous Projects

- University of Wah
- Wah Medical College
- Wah Engineering College
- Mashal Degree College
- Constituent College of UoW

To make the Welfare Trust a vibrant, credible and financially independent organization, the objectives and mission was re-analyzed in year 2010 under the guidance and patronage support of Chairman POF Board. To fulfil above mission, the team geared up to formulate & explore new welfare opportunities & existing profit earning projects, financially viable to support non-welfare or charity projects.

Major achievements in various projects are highlighted as under:-

a. **Izzat Ali Shah (F) Hospital:**

Hospital was established in early 90s by Izzat Ali Shah (Late) a renowned Philanthropist of Wah Cantt. The hospital was handed over to POF Welfare Trust in 2005 to facilitate local community.

The existing setup of Izzat Ali Shah (F) Hospital was insufficient to cater increasing turnover of patients. Thus with the patronage of Chairman POF Board, a new block in the hospital has been added with state of the art facilities costing Rs 55.00 M for the welfare of poor residents. Major purchases include Laparoscopic & Ultrasound machine, Lab machines & equipment has been made. Recently new block and ward of Neonatal Intensive Care Unit has been established. Paediatric Department & Diagnostic laboratory are established which has latest & state of art equipment for testing and are being opened for outdoor patients. A proposal to demolish Admin Block & constructions of double story building to accommodate modern OPD waiting area and allied facilities, canteen, laundry and store etc is under active consideration. Now it is fully equipped Maternal and Child Health Centre, dealing with large number of patients, 24 hours a day, yearly indoor & outdoor turnover 6222/46758. Yearly delivery rate is 4000-5000.



b. **Welfare Transport Service:**

POF Welfare Transport is providing transport facility to POF employees, residence of Wah Cantt, students, marriage & funeral ceremonies at subsidize rates. With the passage of time, transport fleet had almost exhausted its useful life and more than 40% of buses were off road due to non availability of funds / being old vintage. With grace of almighty Allah and kind patronage and approval of the Chairman POF Board, 20 x Toyota Hi-Ace (12 x under procurement) and 20 x Suzuki vans valuing Rs. 27.783 Million have been purchased / being purchased and included in the fleet. Besides, induction of new vehicles, the entire old fleet (22 x Hino large buses, 6 x Hino FB small buses, 25 x Toyota Hi-Ace and 14 x Suzuki van) have been renovated / refurbished and upgraded at total cost of Rs. 2.2 Million to ensure operational worthiness and restore public confidence. Painting of entire transport fleet in one colour scheme i.e. white colour with green strips (Pakistan colour) has been introduced which presents a symbolic picture / logo of POF Welfare Transport Services.

c. **Welfare Filling Station:**

POF Welfare Filling Station is providing the quality fuels and best services and facilities to the people of Wah and adjacent areas under the management of POF Welfare Trust for the last nine years. At F/S, customers are enjoying the facility of car w, tyre shop, oil change, mini store and installment shop. In order to satisfy the customers requesting quality & quantity of products & water mixing necessary gadgets are kept at the station to check.

d. **Welfare Club-II (Marriage Hall):**

In order to improve the existing outlook of the building, provision of quality of services and make it more competitive among the surrounding marriage halls, WT management with the blessings of Chairman POF Board and provision of substantial funds has taken a number of measures which includes Air conditioning, tile work and wall paneling of both halls and adjacent bridal rooms. Construction of front elevation, car porch & hall – 2, increase in seating capacity & service block etc, work on provisioning catering services is also in progress. Due to up-gradation work of halls and provision of certain facilities, POF employees are quite happy and satisfied.

e. **POF Welfare Pharmacy:**

POF Welfare Trust is running 2 x pharmacies named POF Welfare Pharmacy & Izzat Ali Shah Pharmacy to provide quality medicines to the POF employees / allied Departments at subsidized rate i.e 10% discount & 5% to general public. The existing pharmacies were short in space to cater increasing mustering in/out of daily customers and storage capacity. In both the pharmacies it is being ensured that all registered medicines as per drug Act 1976 are kept in Izzat Ali Shah Pharmacy other than child & gynae machines, general medicines are also being kept to facilitate general public & increase in income.

f. **POF Montessori School:**

With the kind approval of Chairman POF Board, Montessori School has been upgraded to Secondary level. Strength of the students increased from 265 to 425 students. To accommodate increasing strength construction of 11 x additional class rooms and admin block is in progress. To educate students through activity based learning, EPL (exercises of practical life) has also been started.

g. **Welfare Computer Centre:**

A premier computer training institute, established in 1987 is striving hard in conducting professional computer training courses for POF employees & their wards, residents of Wah and adjacent area for the last 30 years. With every passing year POF Welfare Computer Centre is bringing improvements in different areas of activity. During the year 2017-18, POF Welfare Computer Centre has introduced new professional computer training courses, especially designed corporate computer training programs, established smart computer training class rooms and acquired 20 additional computers and added 42" LED in three class

rooms replacing the white boards which will give online internet access to students.

h. **Financial Aid to Serving / Retired Employees:**

Following is the summary of welfare / financial assistance provided to the POF serving / retired employees and their wards during FY 2017-18:-

<u>Sr #</u>	<u>Organization</u>	<u>Wel / Fin Assistance</u>
a)	POF WT	Rs. 6.451 Million
b)	Wah Med College	Rs. 23.324 Million
c)	University of Wah/WEC	Rs. 3.511 Million

22. **POF Central Library**

POF Central Library was established in 1984, which is a great source of education and research for POF employees as well as general public of Wah Cantt and vicinity to make the best utilization for normal study and research work etc. POF Central Library is one of the Social Welfare Institutions of POF. The purpose of its establishment is to promote Educational & Cultural activities and to update the standard of the literary and social communities.

During the Year 2017-18, we have purchased 601 Nos. of books on the demand of Readers on the following subjects:-



a. **Urdu / English Books**

<u>Sr. #</u>	<u>Subject Wise (English/Urdu Books)</u>
i.	Fiction (Novels)
ii.	Islamic
iii.	Children Books
iv.	Poetry & Misc.
v.	Engineering
vi.	Auto Biography
vii.	Medical Science
viii.	Pure Services
ix.	History



b. **Functions held in POF Central Library**

During the year 2017-18, various literary functions held in POF Central Library. Detail is as under:

- A function regarding speech competition amongst school students was arranged by Sir Syed Education Society on 13-08-2017 at POF Central Library.
- Bate Bazi competition was arranged at POF Central Library hosted by Sir Syed Education Society.
- Prize distribution ceremony of Seerat Committee regarding Eid Milad-un-Nabi (SAW) was held at POF Central Library on 28-12-2017.
- A function was held in POF Central Library on 08, 09-01-2018 regarding inter school Quiz Competition, which was hosted by Sir Syed College Campus - II as per direction of President SSES; almost 250-300 students and guests were invited.

c. **Visit of Schools / Colleges to POF Central Library**

In order to develop reading habits in students, following schools / colleges located in Wah and surroundings arranged visits of their students in POF Central Library during 2017-18.

i. **Lahore Grammar School (Wah Campus)**

Various classes of Lahore Grammar School, Wah Campus visited this library on 15-01-2018.

ii. **Scholars Schools System**

Various classes of Scholars School System, Wah Campus visited this library on 18-01-2018.

iii. **Sir Syed Educational Institutions**

Various Sir Syed Institutions under the umbrella of Sir Syed Educational Society visited this library. Detail is as under:

Sr. #	Name of Institute	Date visited
i.	Sir Syed School (Campus - V & VII)	31-01-2018
ii.	Sir Syed College (Campus - I, II, VIII, IX & X)	To 21-02-2018

23. Visits to POF

- Lt Gen Mahmoud A. Fraihat, Chairman Joint Chiefs of Staff, Jordan Armed Forces along with an official delegation visited POF on 24th August'2017. Mr. Irfan Ghalib GM-Exports in his detailed briefing told the delegation that POF is a gigantic defence production complex with 14 independent production units, 12 subsidiaries and total work force is more than 26 thousand. POF industrial base is strong enough to undertake development and production of almost all types of conventional arms and ammunition. The delegation visited POF Production Display Lounges, later they were taken to some production units where they witnessed the manufacturing process of arms and ammunition. In his remarks endorsed in the visitor's book, the honourable guest wrote "I was pleased to visit this great organization and looking forward to enhance and expand the cooperation between the two countries in many aspects". The delegation showed keen interest in the manufacturing process of arms and ammunition and lauded the high quality of POF products.



- Chief of Naval Staff, Admiral Muhammad Zakauallah, NI(M) inaugurated a special arms & ammo developed by POF for Pakistan Navy on 21st September'2017. Chief of Naval Staff lauded the competencies of POF Engineers and felicitated the entire POF and Pakistan Navy team involved in this task. While endorsing the remarks in the Visitor's book Naval Chief mentioned "I am impressed with the quality of work of POF & all those who participated in Pakistan Navy project and made it a success deserve high appreciation. We look forward to more cooperation and development of more products for Pakistan Navy".



- The participants of 19th National Security workshop at National Defence University, Islamabad including Senator Ms. Rubina Khalid, Senator Ch. Tanvir Khan, Ms. Asiya Naz Tanoli MNA, Mr. Amjad Ali Khan MNA, Mr Mehboob Alam MNA, Mr. Shehryar Malik MPA, Mr. Mannan Khan MPA, representative of Civil Society & Senior Army Officers headed by Maj Gen Muhammad Samrez Salik, DG Institute for Strategic Studies Research Analysis (ISSRA) visited POF on 28th September'2017. While briefing the delegation about the capabilities of POF, Director Exports told that POF is a vital defence installation of Pakistan and mandated to meet the defence requirements of Pakistan in war & peace and



also playing its role in strengthening the economy of the country by exporting surplus production capacity to more than 40 friendly countries around the globe. He told the delegation that in the present war against terrorism, POF has met enhanced demands of Pakistan Army in terms of arms and ammunition despite many challenges. He further told that in order to make the organization self sufficient and to equip it with modern technologies, joint venture with various countries of the world are under consideration. During questions / Answer session, members of delegation asked many questions about this defence industrial complex. Lt Gen Umar Farooq Durrani, HI(M) Chairman POF Board gave detailed answer of each question.

- Lt Gen Lindile Yam, Chief of the South African Army alongwith an official delegation visited POF on 13th March'2018. On arrival at POF, Chief of the South African Army was received by Lt Gen Sadiq Ali, HI(M) Chairman POF Board and introduced him with POF Board Members. Chairman POF Board remarked that Pakistan and South Africa were enjoying deep rooted defence ties since long which needs to be further strengthened.



- Lt Gen Ramesh Senanayake, Commander of the Sri Lankan Army alongwith an official delegation visited POF on 24th April'2018. Lt Gen Sadiq Ali, HI(M) Chairman POF Board, received Commander Sri Lankan Army and his entourage. Chairman POF Board, in his welcoming remarks highlighted the significance of POF which is the premier Defence Production Organization of Pakistan. While commenting on the capabilities of the Industrial Complex, the Chairman appraised the delegation that POF is not only addressing 90 percent defence related needs of the Armed Forces of Pakistan, but also exporting its products to more than 40 countries around the globe. The delegation was appraised about the range of products being manufactured and total workforce comprising Engineers, Scientists and Skilled Labour employed to accomplish the task. While extolling the bond of friendship between the two countries, Chairman POF underlined the deep rooted defence ties especially in the fields of defence. The delegation also visited POF Product Display Lounges and was taken to some production unites to witness the manufacturing process. The delegation showed keen interest in the development process of arms and ammunition and lauded the high quality of POF products.





Heavy Industries Taxila (HiT)

PART-I

HEAVY INDUSTRY TAXILA (HIT)

1. **Introduction**. HIT was established in early Seventies as a Heavy Rebuild Factory Tank. The idea was conceived with the objective of rebuilding T-59 Tanks of Chinese Origin and later on series production started in 1979. HIT flourished with passing time and at present HIT has 7 x sub factories which are committed in production of tanks, armored personnel carriers, armored security vehicles / products, rebuilding of tanks / armored personnel carriers / Self Propelled Guns, manufacturing of guns for tanks and various other research and development projects. In addition, HIT also utilizes surplus capacity of factories to meet requirement of civil sector & friendly countries.

Mission Manufacture, rebuild, upgrade and develop tanks, tanks guns & APCs and rebuild SP guns. Utilize surplus capacity of factories to meet requirement of civil sector & friendly countries.

Capacity of Factories / Facilities The details of HIT factories / facilities and their annual production capacity when fully primed is as under:-

- a. **HRF-T (Heavy Rebuild Factory T-Series)**. Rebuild / Upgrade 50 tanks and 100 engines per year.
- b. **HRF-M (Heavy Rebuild Factory M-Series)**. Rebuild 100 APCs, additional power packs and 15 SP Guns per year.
- c. **Tank Manufacture Factory**. Manufacture 50 tanks per year.
- d. **APC Manufacture Factory** Manufacture 150 APCs per year.
- e. **Gun Factory** Rebuild and manufacture 50 tanks guns per year.
- f. **DESCOM (Development Engineering Support & Components Manufacture) Factory**. Develop and manufacture assembly / components for tanks and APCs.
- g. **ARDIC (Advance Research Development & Information Centre)** Carries out R&D and integration of different system of tanks and APCs
- h. **ASRF (Advanced System Rebuild Factory)**. Develop / Rebuilds Optronics and Hydraulic system of tanks.

PART-II
DEFENCE ACHIEVEMENTS

1. HIT, by the grace of Almighty Allah achieved the assigned tasks to a large extent and also assisted Army in R&D for development of Tank Al Khalid-2 and up-gradation of Al Zarrar tank. In addition, surplus capacity where available was utilized for commercial activities which included manufacturing of international standard Security Vehicles and equipment for LEAs of Pakistan. The production progress during financial year 2017-2018 is as under:-

a.	<u>Rebuild / Upgradation Projects</u>	<u>Quantity</u>
(1)	Rebuild / Up gradation of Tank T-85IIAP	- 36
(2)	Repair / Rebuild of Tank Engines	- 83
(3)	Rebuild of APCs (M113 Al/A2/P / EDA Stock)	- 170
(4)	Rebuild /Upgraded 125 mm tk gun T-85IIAP	- 35
b.	<u>Manufacturing Projects</u>	
(1)	Tank Al-Khalid-1	- 20
(2)	125 mm Tank Gun Barrels	- 33
(3)	125 mm Tank Guns	- 08
c.	<u>Tank Sustenance by HIT to Field Formation of Army.</u>	Repair work carried out by Site Repair Teams (SRTs) on required basis in Army field units is as under:-
(1)	Site Repair Teams (SRTs) sent to Army Formation	- 24
(2)	<u>Tanks Rendered Fit in the Field</u>	
(a)	Tank T-80UD	- 17
(b)	Tank T-85IIAP	- 77
(c)	Tank Al-Khalid	- 21
(d)	Tank Al-Zarrar	- 74
(e)	Tank T-59 / T-69	- 6
(f)	ARV W653	- 2
(g)	Replacement / Repair of 125 mm Gun barrel Tank Al-Zarrar on Deposit Repair Work Order (DRWO)	- 12
(h)	Components / sub-assemblies repaired of Tanks on Deposit Repair Work Order (DRWOs)	- 772

2. **Future Plan Defence Projects**

Rebuild and Up-gradation of Tank T-85IIAP. 160 tanks will be rebuild / up-graded in the upcoming years. Project shall commence in 2019-20 and will be completed by 2021-22.

Rebuild of Tank T-80UD. Pilot rebuild of 5 x tanks T-80UD is under process at HIT and details of spares and allied accessories required for rebuild are being finalized for subsequent procurement of spares. Series rebuild of tank T-80UD will commence after successful completion of pilot project.

Development of Multi-Purpose Infantry Fighting Vehicle (MIFV). Pak Army is presently not equipped with MIFV. The track APC's held with Army are mostly troops carriers and some BSWS carriers, Air Defence weapons carriers and CVs. On the direction of COAS, HIT is working on the develop of a prototype MFIV as fighting vehicle equipped with latest weapon system to form part of Army's Mechanized Fighting Colum to meet the dictates of future battle field. Prototype MIFV shall be displayed in the upcoming IDEAS-2018.

Research and Development for Tank Ak -2. Research and development of tank Ak-2 is at the final stages and a prototype tank-2 equipped with powerful power pack and latest / modern fire control system / gun control system will be developed in near future.

PART-III
INDIGENIZATION

1. All HIT projects are subjected to time based deletion plan through indigenization. This includes manufacture of in-house items and development of parts and components through down stream industry. The achievements for year 2017-18 are as under:-

Ser	Products	Number of Varieties of Parts Manufactured			
		In House Manufacturing		Through down stream Industries	
		Variety	Quantity	Variety	Quantity
a.	Tank Al-Khalid	113	18002	3	440
b.	Tank Al Zarrar	-	-	4	2302
c.	Tank T-85IIAP	106	23601	9	1123
d.	Tank T-85UG	11	1300	-	-
e.	Tank T-80UD/6TD-I	52	6432	7	1850
f.	Tank T-80UD/6TD-II	2	4	-	-
g.	APC M113P	2	105	3	2222
h.	ARV W653	1	10	-	-
i.	125 MM Tank Gun	7	116	1	61
j.	730 HP tank engines	116	35242	5	3863
Total		410	84812	32	11861

PART-IV
COMMERCIAL ACTIVITIES

1. HIT is pursuing commercial activities utilizing its surplus capacity for manufacturing of marketable products for export and domestic sales under HIT board Act. Some of the commercial products manufactured / developed in year 2017-18 are as under:-

Ser	Products	Factory	Quantity
a.	Armoured Security Vehicle 'Protector'	TMF	07
b.	Lt Armoured Vehicle 'Defender'	"	01
c.	Discreet Armouring of Land Cruiser	"	03
d.	Bullet Proof Jackets (BPJ)	DESCOM	10,628
e.	Bullet Proof Vests	"	2000
f.	Bullet Proof Helmets	"	942
g.	Repair of Tr APCs M113 Talha	APCF	07
h.	Armoured Guard Post (Bunker)	"	25
i.	Cash carry Van	"	01

2. **Commercial Products**

a. **Security Vehicles**

(1) **Mohafiz - II**. The main features are as under:-

- (a) Platform - Land Rover Defender (122 HP).
- (b) Torque - 360 NM.
- (c) Manufactured with Ballistic steel or Aluminum - steel combination with rotating turret.
- (d) Protection level - B6
- (e) Seating capacity - 8
- (f) Firing ports - 6
- (g) Run flat tyres.
- (h) Additional features include Jammer for GSM.



(2) **Armoured Security Vehicle “Protector”**. The main features are:-

- (a) Engine type - (200 HP), at 3400 rpm
- (b) Drive System - Full time 4-wheel drive (4x4)
- (c) Brake System - Hydraulic power assisted brakes
- (d) Seating Capacity - 8 (2 +6)
- (e) Suspension - Heavy duty (Upgrade)
- (f) Body Protection - Provide protection to meet N.I.J. Standard Level IV
- (g) Doors - 3 (2 front, 1 rear)

(3) **Armoured Security Vehicle “Dragoon”**. The main features are:-

- (a) Driver Night Vision periscope - 45°
- (b) Fire Suppression System – Semi automatic
- (c) Protection Level - B-7
- (d) Engine - Caterpillar Engine (300 HP)/ Detroit Diesel 6V53T, 224 kw at 2800 RPM (300 HP)
- (e) Suspension System - Solid Axle System
- (f) Brake System - Hydro pneumatic
- (g) Transmission - Caterpillar/Alison PF MT 653
- (h) Crew Capacity - 11 including Driver
- (i) Doors - 2 (1 x side & 1 x rear)

(4) **Discrete Armoured Vehicles**. The main features are:-

- (a) Protection B5 / B6 / B6 + level.
- (b) Blast protection upto DM51 standard and above.
- (c) Bullet proof front, rear and door glasses.
- (d) Improved brake system.
- (e) Improved suspension system.
- (f) Run flat tyres.



(5) **Interceptor** The main features are:-

- | | | | |
|-----|---------------|---|--------------------|
| (a) | Protection | - | B6 Level |
| (b) | Engine | - | 202 HP |
| (c) | Max speed | - | 110 Km/Hr |
| (d) | Weight | - | 5.3 Tons |
| (e) | Suspension | - | Heavy Duty Upgrade |
| (f) | Transmission- | | Manual 5 Speed |
| (g) | Brakes | - | Hydraulic Assisted |
| (h) | Crew | - | 2 + 6 |



b. **Bullet Proof Jacket (Hifazat)**. The main features are:-

- | | | | |
|-----|----------------|---|---|
| (1) | Weight | - | 6 Kg |
| (2) | Size | - | Available in all sizes |
| (3) | Colour | - | As per user requirement |
| (4) | Protection | - | NIJ level III & IV |
| (5) | Protected area | - | Front and back, collars shoulder |
| (6) | Material | - | Fire retardant, floatable, chemically inert |



c. **Armoured Guard Post (Bunker)**. The main features are:-

- | | | |
|-----|--|--|
| (1) | Pentagonal shaped Armoured Guard Post (Bunker). | |
| (2) | Provide immunity against 9mm, 38 Bore, 7.62mm NATO BALL and AP round (B-6 & B-7 level) at 10 m distance. | |
| (3) | Ballistic Protection B-6 & B-7 level. | |
| (4) | Full protection against hand grenade. | |
| (5) | 9 x view windows with bullet proof glass all around. | |
| (6) | Seating capacity of 2 x seats without turret and 1 x seat with turret for 1 man bunker, whereas for 2 men bunker 4 x seats without turret and 2 x seats with turret. | |
| (7) | Firer can fire in both sitting and standing positions. | |



PART-V**SALE / EXPORT / TAX DEPOSITED AND SAVING THROUGH IMPORT SUBSTITUTION**

1. **Local / Domestic Sale.** HIT has significantly contributed in government treasury through exports and domestic sale of APCs, security equipment / vehicles and discrete armouring of vehicle. Salient are as under:-
 - a. Total sales in FY 2017/18 : Rs. **746.806 Mn**
 - b. Profit earned for Government : Rs. **74.680 Mn**
 - c. Proportionate cost remitted to Government as per rules. : Rs. **17.923 Mn**

2. **Exports.** An export contract valuing US\$ 1.290 Mn has been concluded with Government of Bahrain for sale of 6 x Armoured Security Vehicles.

3. **Tax Deposited**
 - a. Income Tax : Rs. **10.359 Mn**
 - b. Sales Tax : Rs. **0.838 Mn**

4. **Saving Through Import Substitution.** Details are as under:-
 - a. Cost benefit analysis of major defence equipment (saving by manufacture, rebuild & up-gradation of tanks & APCs by HIT vis-à-vis CBU price) : Rs. **13,269.583 Mn**
 - b. Saving through deletion in import kit by indigenization (difference between import cost of deleted items and locally developed and manufactured cost) : Rs. **888.223 Mn**

PART-VI
WELFARE MEASURES

1. **Existing Welfare Measures**

- a. **Initiatives for Public Welfare and Facilitation.** HIT Education City (HITEC), a premier Educational Complex is providing quality education from primary to university level for the local public of Taxila and surrounding areas. In addition, it is also providing education and boarding facilities to students from far flung areas of Baluchistan and FATA under various government schemes including PM scheme to improve their professional / technical expertise. 197 x internees of various Universities and 150 x internees under National Internship Program (NIP) were trained in financial year 2017/18, besides these programs, various technical courses and diploma are being run for youth of the area for imparting technical skills in order to make them useful citizens. Approximately 154 x Boys and Girls have been trained through various Apprenticeship, Artisan and Diploma courses in the financial year 2017/18.
- b. **Health Service Facilities for Local Population.** HIT through Cantonment Board Taxila has constructed a dispensary outside HIT premises to provide better health facilities for local population residing in surrounding areas of HIT.
- c. **Establishment of Medical / Dental College.** In order to enhance the clinical capacity of health care within the financial constraints, **establishment of Medical and Dental College** was conceptualized by HIT Boards. The Medical College has been approved by PMDC and started functioning whereas a Dental College equipped with latest / modern dentistry instrument has been established. Dental College is likely to commence by December 2018 / January 2019 after inspection / approval of PMDC.

2. **Proposed Welfare Measure.** Existing single road from Taxila Bypass to Museum is not sufficient enough to accommodate huge quantum of traffic especially at the time of morning / closing hrs. Moreover non availability of underpass at railway crossing on Saghir Hussain Shah road and overhead bridge at Taxila Bypass on NH-5 result not only into huge traffic jam and but it may become the cause of fatal accident. To overcome the above narrated issue following projects are perceived:-

- a. Construction of dual carriage road from Taxila Bypass to Museum.
- b. Construction of overhead bridge at Taxila Bypass and underpass at railway crossing on Saghir Hussain Shah road.

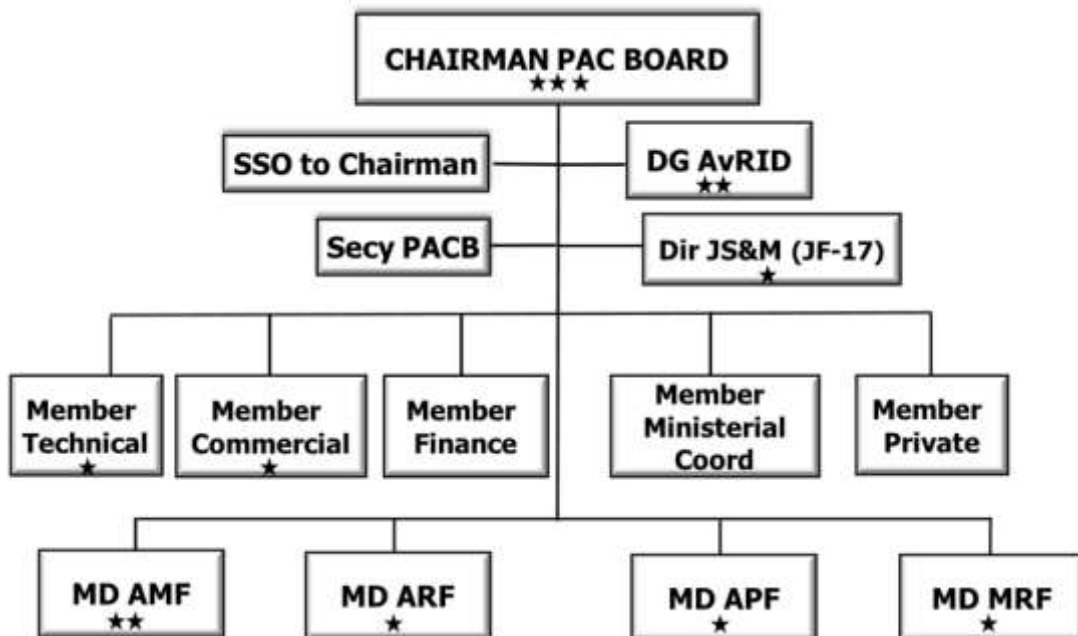


Pakistan Aeronautical Complex Kamra (PAC)

PAKISTAN AERONAUTICAL COMPLEX KAMRA



Organization of PAC Board



Introduction

1. Pakistan Aeronautical Complex (PAC) was established in 1972. The idea was conceived to develop indigenous facility for overhauling Chinese origin fighter aircraft. Realizing the benefits, it was soon ascertained that a huge amount of national exchequer could be saved if such facility could also be established for other weapon systems, like the newly inducted PAF Mirages. The conceived idea leads to the formation of Mirage Rebuild Factory. In order to meet the requirements of light military trainer aircraft for Pakistan Armed Forces, another facility named Aircraft Manufacturing Factory was established in 1975. Manufacturing of Super Mushshak aircraft for Pakistan Armed Forces as well as for international customers was undertaken by this factory. Subsequently, a facility for in-country overhaul of ground based radars and airborne avionics was also established, which has gradually transformed into a modern avionics design development and manufacturing facility. Pakistan Aeronautical Complex, while continuing its role as Maintenance Repair Overhaul (MRO) organization for technical and operational support of PAF, took a giant leap forward towards manufacturing of JF-17 fighter aircraft. At present, PAC Kamra consists of a vast complex comprising four factories, and an Aviation Research, Innovation and Development Center namely:

- (a) Aircraft Rebuild Factory (ARF)
- (b) Mirage Rebuild Factory (MRF)
- (c) Aircraft Manufacturing Factory (AMF)
- (d) Avionics Production Factory (APF)
- (e) Aviation Research Innovation & Development Center (AvRID Center)

Aircraft Rebuild Factory (ARF)



2. ARF was established in 1972 to support PAF fleet of Chinese Origin fighter aircraft. During FY 2017-18, ARF successfully completed the General Overhaul (GOH) of assigned aircraft along with the associated tasks to ensure extended and sustained support for PAF operations. Numerous important tasks were accomplished during the specified time span.

3. **Indigenization / Development Projects.** A significant number of indigenization / developmental tasks were accomplished at ARF. During year 2017-18, overhauling of 20 propellers of C-130 aircraft, 67 drop tanks and 4485 calibration / testing of PME / PMIs were carried out. Besides General Overhaul (GOH) of 31 aircraft was undertaken and more than 266,615 aircraft components were produced / manufactured. Additionally, 114 on-site recoveries of Chinese origin aircraft were carried out at different PAF bases. ARF has also accomplished 687 development tasks and 61 ToTs were conducted on certain areas as part of Predictive Maintenance Programme to increase the standard of workman-ship of technical workplace.

4. **On-going Special Projects.**

- (a) Establishment of JF-17 MRO.
- (b) LEP Star Package of F-7P / FT-7P Aircraft.
- (c) Rewiring of Cobra Helicopters.
- (d) Manufacturing of JF-17 aircraft components.
- (e) Manufacturing of aircraft hydraulic pump.
- (f) Indigenous Manufacturing of Canopy and Windshield Transparencies for JF-17 aircraft.
- (g) Manufacturing of Parts for IREK Project and Range Extension Kits (REK).

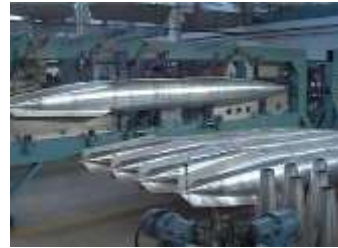
- (h) Manufacturing of Parts for AL-RASUB Project.
- (j) Fabrication of harnesses, pipes & dies for different aircraft & parts

5. Specialist Facilities.

- (a) Up-gradation of “Center of Excellence” for manufacturing of Canopy / Windshield of all fighter aircraft is in progress.



- (b) Fighter aircraft Drop Tanks are being Manufactured.



- (c) C-130 aircraft propellers & QECs are being overhauled.



- (d) Fighter aircraft AMEs are being refurbished.



Mirage Rebuild Factory (MRF)



6. MRF was established in 1974 to support the Mirage Fleet of PAF. During the year 2017 – 18 overall production of the Factory was well beyond its established capacity.

7. **Indigenization / Development Projects.** The aircraft group of MRF carries out overhauling of Mirage III and V aircraft and their components. During year 2017-2018 twelve aircraft and more than 16,000 components were overhauled. Additionally 1st in-country 'C' inspection of Western Origin Falcon DA-20 aircraft, without OEM training, was also accomplished at MRF. MRF has also undertaken overhaul of 80 ATAR 09C engines of Mirage aircraft, 58 F-100 engine modules of F-16 aircraft, 244 engine accessories of T-56 engine of C-130 aircraft, 12 J-69 engines of T-37 aircraft and 18 TFE engines of K-8 aircraft. Additionally, a considerable number of loose modules of above mentioned engines have also been produced to ensure operational readiness of PAF fleet. Trial repair of UPAZ aerial refueling pod is another milestone achieved at MRF.

8. Specialist Facilities.

- (a) Specialist Welding
- (b) Plasma Spray
- (c) CNC Pipe Bending
- (d) Aircraft structural repair capability
- (e) Aerospace coating and livery facility



F-100 Engine overhaul facility for F-16 Aircraft



T-56 Engine overhaul facility for C-130 Aircraft



ATAR 09C Engine overhaul facility for Mirage Aircraft



J-69 and TFE 731 Engines Overhauling

Aircraft Manufacturing Factory (AMF)



9. AMF was established in 1975. This Factory is manufacturing JF-17 and Super Mushshak aircraft in addition to unmanned aerial vehicle (UAV) and sub-assemblies for K-8 Jet Trainer aircraft. Super Mushshak aircraft is an ideal aircraft for elementary flight screening and primary flying training.

10. During year 2017-18, AMF has produced 14 each SMK and JF-17 aircraft for PAF and friendly countries. Besides this, overhauling of 79 SMK aircraft was undertaken by AMF. Additionally, glass cockpit modification of 20 SMK aircraft and spare / repair support for 7733 parts were also provided to PAF / Pak Army. In continuation to this, following achievements were made by AMF during specified time period:-

(a) **JF-17 Airframe Co-Production Project.**

JF-17 airframe co-production project at AMF, PAC Kamra reached a major milestone with the completion of production work of Block-II aircraft in 2017. It was the third consecutive whereby the factory produced new aircraft at defined production rate. The package of post-production modifications was also executed on all newly produced aircraft to enhance operational capability.

(b) **Contracts of Co-Production of JF-17 Dual-Seat & Block-III Single-seat Aircraft.** The contracts for co-production of JF-17 Dual-Seat and Block-III Single-Seat aircraft were signed in May, 2018. The aircraft production under these contacts would occupy AMF production facilities till 2022.

(c) **Re-assembly and Flight Testing of 1st Dual Seat JF-17 Aircraft.** The first JF-17 dual-seat aircraft from PAF was received during period under review and the task in respect of re-assembly and flight testing work is in-hand.

(d) **Air-to-Air Refueling Modification.** 06 JF-17 Block-II aircraft were modified for Air-to-Air refueling capability. With the completion of this work, all Block-II Configuration-C, JF-17 aircraft of PAF now possess the AAR capability. In addition, AMF has also fulfilled hi-end manufacturing requirements of various PAF units, sister services, and other strategic organizations.

(e) **Repair & Spare Support (2017-18).** In addition to production of new aircraft; AMF is fully utilizing established facilities and acquired capabilities for modification and life cycle support to PAF. Such projects include:-

(i) Development of Rigging Fixtures and Oxygen Adopter for JF-17 Aircraft, Door Assembly of T-37 Aircraft, Manufacturing of Mirage A/C Parts, and Wing Doubler for F-16 Aircraft.

(ii) Glass Cockpit Modification (DYNON Sky view) for PAF, modification of ECS and Electric Trim Motor for SMK aircraft of Nigeria, Qatar, & Azerbaijan. In addition modification for K-8 Cockpit Conversion to K8P standard, FLIR camera modification for C-130 aircraft were also undertaken.

11. Specialist Facilities.

(a) State-of-the-art CNC machining



(b) Sheet metal forming



(c) CNC Pipe Bending



(d) Composite Parts Manufacturing



(e) Heat and Surface treatment



- (f) Shot Peening & surface Enhancement



- (g) Special Inspections (Physical, Chemical & NDT)

- (h) CAD / CAM & Reverse Engineering

Avionics Production Factory (APF)



12. APF was established in 1986 as “Kamra Avionics and Radar Factory” (KARF), which was subsequently renamed as Avionics Production Factory in 2011. APF initially undertook overhauling of ground based radars and co-production of selected Avionics systems and later on ventured into design, development and manufacturing of different Avionics systems.

The co-production of avionics systems used in JF-17 aircraft is done at this factory. This factory also has a unique / coveted capability of weapons integration which enables it to integrate modern standoff weapons on aircraft. During the year 2017-18, APF has provided 4,010 Life Cycle Maintenance Support of Airborne Avionics of various aircraft of PAF. Besides, 10 overhauling /

refurbishment of Ground Defence Radar / Radio Relays was carried out. Additionally, APF has also calibrated 2,566 PMEs.

13. **Indigenization & Development Projects.**

- (a) Co-production of JF-17 Avionics Systems, their testing and qualification.
- (b) Integration or solutions of various avionics systems of PAF aircraft to meet the operational requirements.
- (c) Conduct of variety of avionics integration and manufacturing related courses.
- (d) Up-gradations for better performance of PAF aviation fleet.
- (e) Life cycle maintenance of aircraft avionics systems.
- (f) Overhaul of ground radars.
- (g) Design, development and manufacturing of selected avionics systems, and sub systems.
- (h) Design, development and manufacturing of simulators and training systems.
- (j) Avionics systems integration on various aircraft.

14. **Special Facilities.**

- (a) Avionics system integration
- (b) Automated PCB stuffing
- (c) Automated Fault tracing system
- (d) ESS (Environment Stress Screening)
- (e) Anechoic (EMI / EMC) testing
- (f) Calibration & repair of PME

Aviation Research Indigenization and Development Center (AvRID)

15. In order to realize the potential of Aerospace research along with development of several other high tech sectors, an Aviation Research, Indigenization and Development Center has been established at PAC for creating a sustainable R&D ecosystem that will enable Pakistani aviation industry to provide indigenous solutions to PAF, sister services and civil aviation as well as create synergy through effective linkage and collaboration among Government, Industry and Academia.

16. **Aviation Design Institute (AvDI).** Aviation Design Institute (AvDI) is working on different Aviation related R&D projects in collaboration with local industry-academia linkage. Major projects include indigenous design and development of Target Drones and Unmanned Aerial Vehicles (UAVs). Target drone is intended as a system with ground to air defense role and as well as training role. Whereas, Unmanned Aerial Vehicle will be used for surveillance and reconnaissance. UAVs will also be used in combat support missions against terrorists and enemy forces. First fly worthy prototype of Target Drone is planned to be completed in 1st quarter 2019 and UAV by June 2019.

17. **Project Azm.** Development of Next Generation Fighter Aircraft (NGFA) Project AZM was initiated in April, 2017 under the ambit of Aviation Research, Innovation, and Development AvRID Secretariat at Pakistan Aeronautical Complex to be the core component of Aviation City, Kamra. The design effort is focused to address the operational requirements given by PAF in the form of Air staff requirements. First cycle of conceptual design phase has been completed. The first configuration that was designed based on the challenging performance requirements of PAF will go through three more cycles within the conceptual design using higher fidelity analysis tools and codes.

Certifications



18. All PAC factories are ISO 9001 : 2000 and Aerospace Standard 9100 Revision 'C' certified. We have also been awarded Boeing Quality Management System status. Additionally, our precision measuring equipment labs are accredited for ISO 17025 standards and heat treatment and surface enhancements are accredited by NADCAP PRI USA. PAC is qualified on European / Italian quality standards. Acquisition of Civil Aviation Certification by PAC has given a further boost to sale of Super Mushshak by making it viable and acceptable option to many more customers including Flying Clubs, both in local and international market.

Commercial Activities



19. Over the years PAC Kamra has grown into an international aviation standard industry. It has state-of-the-art equipment, machinery and expertise which are as competent as any aviation industry has in the world.

20. Due to the standards and certifications that PAC has acquired, commercialization in the following areas is being offered by PAC:-

- (a) Sale of JF-17 and SMK aircraft.
- (b) Aircraft and Engines MRO for Mirage & Chinese Origin aircraft.
- (c) Life Cycle Support & Maintenance for Air radars. Defence systems including
- (d) Printed Circuit Board (PCB) stuffing.
- (e) Precision Measuring Equipment (PME) calibration.
- (f) Environmental Stress Screening (ESS).
- (g) Generic Engineering design & manufacturing.

21. PAC is devoted to provide the highest quality services primarily to PAF and its sister organizations, and extend these services commercially to friendly countries.

22. In the context of services provision, PAC has earned a considerable amount of foreign exchange and is continuously extending its services on commercial footings. Countries including Saudi Arabia, UAE, Qatar, Turkey, Oman, Sri Lanka, USA and salient other are included in the customers list of PAC.



**National Radio
Telecommunication Corporation
(NRTC)**

NATIONAL RADIO TELECOMMUNICATION CORPORATION

HISTORY:

National Radio and Telecommunication Corporation (NRTC) is a name of “Reliability, Quality and Self Reliance”. NRTC, a Defence Production Establishment of Ministry of Defence Production (MoDP), is engaged in design, development and manufacture of **Strategic & Tactical Communication, Security & Surveillance, Information Technology, Intelligence, Explosive Ordinance Disposal (EOD), Electronic Warfare (EW)** equipment in Pakistan. NRTC is the pioneer in Telecommunication Equipment and leader in the field of communication in Pakistan for the last five decades. The equipment produced by NRTC is being used by the Armed Forces of Pakistan, Paramilitary Forces, Law Enforcement Agencies (LEAs), Civil Armed Forces (CAFs) and many friendly countries with strong after sale support services since 1965-66.

We have built our business around our ability to offer creative and tailored solutions worldwide, providing the best total value while building premier customer relationships. Since its inception, NRTC has been a highly stable and reliable partner for customers who require high-tech communication equipment and solutions. Our success comes from the innovative value proposition we bring to electronic manufacturing, proof of its uniqueness is in our enviable track record for decades.

At NRTC, builds lasting relationships with our customers through provisioning of quality solutions and unparalleled 24x7 support based upon commitment and dedicatio

INFRASTRUCTURE:





3. **LOCATION:**

It is situated in T&T Complex Haripur Khyber Pakhtunkhwa (KPK) Pakistan, which is 80 Km North West of Islamabad.

4. **VISION:**

To provide value added “systems”, “solutions” and “services” achieving “**six sigma quality**” in our processes for our customers worldwide.

5. **MISSION:**

To Design, develop and manufacture military and commercial telecommunication equipment, electronic systems and IT Solutions for local and international customers

QUALITY CERTIFICATIONS:

By virtue of long experience in the field of telecommunication, NRTC has attained excellent technical backed-up knowledge and support with a modern infrastructure and standard expertise required to produce telecommunication equipment to the entire satisfaction of the users. We are ISO 9001-2008, ISO 14001:2008, ISO 18001-18002, IPC and MIL STD 810 certified as well.



QUALITY POLICY:**Our Prime Objective**

- To design, manufacture provide and install high quality and cost effective telecommunication products and services as per customers' requirements/ specifications and to their entire satisfaction

Our Aim

- Commitment to quality , reliability, durability and continuous improvement of our products, services , processes and systems to be responsive to customers' expectations

Our Pride

- Timely supply and provision of full time support on products maintenance and services

Our Priority

- Strive to 100% customer retention and satisfaction by meeting their requirements first time and every time

Our Employees

- Our goal is to constantly enhancing not only our products but also the quality of life and work of our valued employees through updating their skills /capabilities and providing healthy and safe environment

LIST OF PRODUCTS MANUFACTURED & SERVICES BY NRTC

Military Radios

- V/UHF Software Defined Radios (SDR)
- PRC-77/PK VHF-FM Radio Set (Up-Graded)
- Personal Role Radios (PRR)-New Two-Way Digital Radio
- Digital Intercom System
- Technology for the Next Generation Networks – NR 80 GE (70/80 GHz 1.25 Gbps)
- Wireless Ethernet Solution – NR W/E 4-24 GHz
- Wireless Solution for Ethernet, PHD and SDH Networks – NR PDH/SDH 4-38 GHz

Land Mobile Radios (LMR)

- LMR – Digital Encrypted Handheld Radios
- LMR – Digital Encrypted Mobile Radios
- LMR – Digital Encrypted Base Station Radios
- LMR – Analog Digital Repeater Radios
- LMR Radio / Telephone Interface Unit
- TETRA Radio System Architecture
- TETRA Handheld Radios
- TETRA Dash / Desk Radios
- TETRA Base Station
- APCO P-25 Wide Area System Architecture
- APCO Project25 – 4700 Handheld Radios
- APCO Project25 – 4700 Mobile Radios
- APCO Project25 – 4700 Base Station Radios
- APCO Project25 – 4700 Repeater Radios

COMNET & Line Equipment

- Integrated Communication Command and Control
- Tactical Media Gateway
- Tactical Access Node
- IPX-2062
- Secure Smart Radio Gateway (SRG)
- Field Phone IP Gateway (LB-IP)
- PFX-3208 Digital Electronic Field Telephone Exchange
- PFX-1604 Digital Electronic Field Telephone Exchange
- IP Interoperability – FD Exchanges Up-Gradation
- Electronic Field Telephones (EFT 101)
- Electronic Field Telephones (EFT 101P)

Distribution Point Boxes

Customer Premises Equipment

Protective Security Equipment for Explosive Ordinance Disposal

- Hadaf EOD Robot
- Tarantula Ground Vehicle

- **RCIED Jammers**
- Vehicular Broad Band PK-6000 Jammer (20 – 6000 MHz)
- Vehicular Wideband WB-300 Jammer (20 – 500 MHz + GSM 900 / 1800 / 3G / 4G)
- Vehicular Wideband WB-200 Jammer (20 – 500 MHz)
- Vehicular GSM PK-100 Jammer (GSM 900 / 1800 / 3G / 4G)
- Manpack MP-100 GSM Jammer (GSM 900 / 1800 / 3G / 4G)
- Manpack MP-200 Jammer (20 – 500 MHz)
- Manpack MP-300 Jammer (20 – 500 MHz + GSM 900 / 1800 / 3G / 4G)
- Compound / Prisons Static Jamming Solution

Surveillance Solutions

- Perimeter Security System (PSS)
- Unattended Ground Sensors System (UGS)
- Vehicular Surveillance System (VSS)
- Covert Surveillance Vehicle System (CSVS)
- Vehicular Tracking System

Safe City Solutions

Digital Investigation Suite

- GEO Fencing System
- CDR Analysis System
- Criminal Information System
- Passive GSM Interceptor
- Active Locator System VT-400
- Manpack Locator System VT-400
- Handheld IMSI Catcher 2G/3G/4G
- Network Based IMSI Catcher Scanner for Centralized IMSI Catching

Communication Security

- Secure Voice Application for Android
- NRTC's Secure SMS
- Secure Module for Radios

Railway Crossing Protection System

TECHNICAL PERFORMANCE / CAPABILITIES

NRTC has the following technical facilities / capabilities for the Manufacture, Assembly, Testing and Measuring of following equipment/tasks:-

- HF and VHF Military Version Radios.
- VHF and UHF Commercial Mobile Radios.
- VHF and UHF Single/Dual/Multi Channel Extend Radios.
- Digital Investigation Suit
- Smart Automation
- Safe Cities Solutions
- Unattended Ground Sensors System
- Electronic Warfare Equipment
- Military Version Switches/EPABXs 16 lines, 20 lines, 40 lines and 96 lines.
- Commercial Version Switches/EPABXs 50 lines to 1024 lines.
- Digital Field Telephone and Ruggedized Auto Field Telephone.
- Linear, Regulated Power Supplies.
- Printed Circuit Boards for all type of Telecommunication equipment.
- VHF/UHF Antennae for Military/Commercial Radios including Extend Radios.
- Environmental Test facilities as per MIL-STD-810E
- Mechanical and Surface treatment workshops
- PCB stuffing upto 16-layers

NRTC has the state of the art electrical / manufacturing machines equipment and has large potential to manufacture various communication equipment

Automatic Inventory



Inventory Control and automatic management of components is essential and critical for any electronic manufacturing setup. Setup for storage with control environment for sensitive devices and integrated devices is a big challenge. In order to make sure that devices are stored in correct position and environment and easy to track, automatic storage system is essential for any advance electronic manufacturing setup. NRTC has state of the art inventory control system.

Power House



Power house equipped with 1.2 MW of generating capacity has been established to meet the power requirement of the factory during load shedding.

Manufacturing of mechanical parts



NRTC has state of the art mechanical / manufacturing facility that includes CNC machines of different category including CNC turning, wire cut, 3 axis turning, nibbling and punching machines



Electronic manufacturing floors



SMT line

NRTC has established state of the art PCB stuffing and manufacturing facility of international standard, to meet the future requirements of NRTC products.



Reflow Oven



Wave soldering plant

PCB Cleaning

PCB cleaning is important element in man cleans the PCBs with de-ionized water to recently established state of the art PCB clean



Environmental test Facility



This facility is required to test the equipment operational conditions in environment ie, temperature test +70 -40°C, sand & dust conditions, salt spray test, water immersion test, vibration & bounce test, drop test etc.

Qualification of equipment in these test means equipment complies Military standard enforced for acceptance of the equipment. NRTC has the state of the art environment test facility.

Automatic test and alignment facility



NRTC has state of the art automatic testing facility with General purpose test equipment along with special interface customized as per user requirement to test specific equipment.





**Karachi Shipyard and
Engineering Works
(KS&EW)**

KARACHI SHIPYARD & ENGINEERING WORKS LIMITED**INTRODUCTION**

Karachi Shipyard & Engineering Works Limited (KSEW) was established in mid-fifties as a project of Pakistan Industrial Development Corporation (PIDC) and incorporated as a public limited company in 1957. KS&EW is entirely owned by Government of Pakistan/Pakistan Navy and working as an autonomous commercial organization under Ministry of Defence Production. It is managed by a Board of Directors with Managing Director as the Chief Executive.

KS&EW is situated at West Wharf Karachi and spread over an area of 71 acres. It has a large shipbuilding hall, two block fabrication areas, three shipbuilding berths, two dry docks, a well-equipped machine shop and a large grit blasting and painting facility with modern machinery for paint application under controlled environment as per international standards. A Ship Lift and Transfer System with a lifting capacity of 7781 tons and 13 in number parking stations is being installed.

VISION

To make Pakistan a leading shipbuilding country of the region in line with its true potential and ideal location, thus contributing towards our economic development and poverty alleviation.

MISSION

KSEW is committed to deliver quality products built to agreed specifications on scheduled dates and at competitive prices.

MAIN FUNCTIONS

➤ **PAKISTAN NAVY'S REQUIREMENT:**

As per Government's mandate KSEW caters for Pakistan Navy's requirements. Additionally, KSEW undertakes commercial activities mainly shipbuilding, Ship repair and General Engineering.

➤ **SHIPBUILDING:**

• **Commercial Activities**

KSEW is equipped to build all types of Marine crafts, cargo vessels, containerships, oil tanker, bulk carrier, Harbor tugs, Pilot boats, Hopper barges and Dredgers up to 22000 TDW etc.

• **Defence Related Activities**

KSEW has the capability of indigenous construction of Naval vessels such as Fast attack craft, Patrol boats, Gun boats, Missile craft, Submarine, Frigate and Fleet Tanker etc.

• **Infrastructure**

To carry out the shipbuilding activities, KS&EW has three shipbuilding berths with following sizes and capabilities.

Berth No.	Size	Max TDW
1	169 x 23 M	15000
2	118 x 23 M	6000
3	213 x 31 M	26000

It has well equipped machine shop and has a large grit blasting and painting facility with modern machinery for paint application under controlled environment as per international standard. KS&EW has undergone extensive up-gradation during 2008-09. This has enhanced its capacity to compete with international contender shipbuilding industry.

5 ACHIEVEMENTS / PROGRESS DURING FINANCIAL YEAR 2017-2018

5.1 SHIPBUILDING ORDERS COMPLETED DURING FY 2017-18

5.1.1 Fendering Arrangement for South Pier at JNB ORMARA (2017)

Work related to the captioned project was satisfactorily completed at Jinnah Naval Base Ormara in August 2017 as per contractual timeline.



5.1.2. 01 x Azmat Class Fast Attack Craft Missile for Pak (Navy) – FAC(M)-3 (2017)

The vessel was commissioned / handed over to Pakistan Navy after successful trials on 28 July 2017.



28 Jul 2017 : Admiral Muhammad Zakaullah NI(M) Chief of the Naval Staff (Chief Guest) being briefed on the newly constructed Fast Attack Craft (Missile) No. 3 for PN

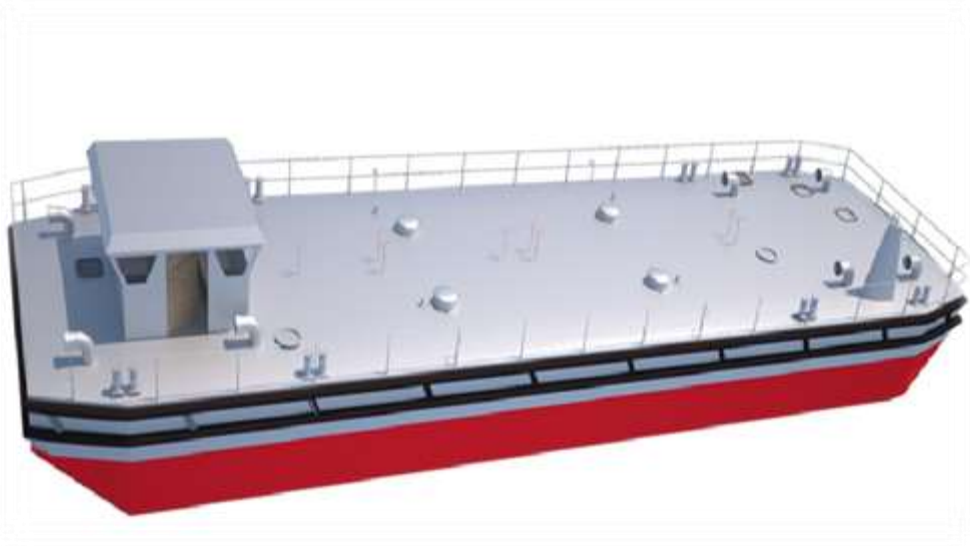
5.1.3. 02 x FRP Boats for Pakistan Customs (2018)

The contract for the construction of 02 x FRP Boat for Pakistan Customs was awarded on 07 June 2017. After successful conduct of trials, the boats were handed over to Pakistan Customs on 10 March 2018.



5.1.4. 01 x Multipurpose Barge for Pakistan Navy (2017)

KS&EW delivered a Multipurpose Barge to Pakistan Navy on 10 October 2017.



5.1.5. 01 x 32 Tons Bollard Pull Tug for Pakistan Navy (2018)

Pakistan Navy placed an order for construction of 2 x 32 Tons Bollard Pull Tugs to KS&EW. The first tug was delivered to Pakistan Navy on 23 May 18 whereas the second tug was launched into sea on 02 Mar 18 for conduct of harbor and sea trials.



5.2 SHIPBUILDING ORDERS IN PROGRESS

5.2.1 17,000 TONS FLEET TANKER FOR PAKISTAN NAVY

KS&EW is currently building the largest warship to be built to date in Pakistan, the IMO/MARPOL compliant, double hull 17,000 tons PN Fleet Tanker to provide logistics support to PN units at sea through transfer of liquid and dry cargo.



After successful launching of vessel, PNFT is currently undergoing final acceptance trials before delivery.

5.2.2 FAST ATTACK CRAFT NO. 4 FOR PAKISTAN NAVY

FAC(M) No. 4 is the first warship being indigenously designed and build in Pakistan without seeking foreign technical expertise.

Presently, block construction activities related to the vessel are nearing completion and finished blocks are being assembled on berth at a fast pace.



5.2.3 01 x 32 T BP TUGS FOR PAKISTAN NAVY

After successful launching of the second tug for Pakistan Navy in Mar 18, outfitting work and trials of the vessel are presently being conducted.

5.2.4 01 x 600 TONS MARITIME PATROL VESSEL FOR PMSA

Construction of 1 x 600 Tons MPV is in progress at KS&EW in collaboration with M/s China Shipbuilding Trading Company (CSTC).

Critical harbour and sea trials of vessel have been successfully completed and the vessel is planned to be delivered on 9 August 2018.



5.2.5 01 x 1500 T MARITIME PATROL VESSEL FOR PMSA

Construction of 1 x 1500 Tons MPV is in progress at KS&EW in collaboration with M/s China Shipbuilding Trading Company (CSTC).

Construction of all main hull blocks has been completed whereas, block assembly at berth is in progress at a fast pace.



5.3 NEW SHIPBUILDING CONTRACT(S)/PROSPECTIVE PROJECTS

5.3.1 04 x HANGOR CLASS SUBMARINES FOR PAKISTAN NAVY

The contract of construction of 8 x AIP Submarines was signed between CSOC and DGMP / KS&EW on 20-04-2015. Out of 8 submarines, construction of 4 submarines is to be carried out in China while remaining 4 will be constructed at KS&EW.

5.3.2 02 x MILGEM CLASS CORVETTES FOR PAKISTAN NAVY

MoDP has concluded a contract for acquisition/ construction of 04 x MILGEM Class Corvettes with M/s ASFAT of Turkey. As per the contract, 02 x ships will be built at Turkey whereas remaining two will be constructed at KS&EW tentatively scheduled to start from December 2019.

6. SHIP REPAIRS

Karachi Shipyard & Engineering Works (KS&EW) owns a comprehensive Ship Repair Division which offers a diversified setup for repairing, rebuilding, overhauling or damage repair right upto extensive refit to naval and commercial vessels. KS&EW has so far repaired over 5000 vessels, which include National as well as foreign flag carriers. Pakistan Navy, Pakistan Maritime Agency, KPT & PQA are our regular customers.

KS&EW focuses & excel in the practical, creative and professional method of repair solutions that enable us on delivering short lead time for repairs, high quality work and minimal vessel downtime. Our highly trained employees, in combination with our experienced and reliable project management teams, are able to performed planned maintenance work onboard vessels, the scope of which is established in line with customer requirements. Projects are planned to take place within fixed time scheduled to the highest quality standards and according to the budget.

Modern and well-planned facilities are available in KS&EW for undertaking above water as well as under water repairs of Ships. The ancillary facilities include Shore electric supply, Compressed air, Oxygen, Acetylene and Natural gases in pipelines and cylinders as well as Fresh and Sea water supply lines for ballast & firefighting. Our well-equipped Machine Shop is in attendance besides other workshops readily available for supporting Ship repairs of all kind.



PNS ALAMGIR in Dry Dock # I for repair work

DRY DOCKS

<i>Dry Dock</i>	<i>Length</i>	<i>Width</i>	<i>Crane Facility</i>	<i>Capacity</i>
<i>1</i>	<i>186 m</i>	<i>27 m</i>	<i>30 Tons 15 Tons</i>	<i>26,000 TDW</i>
<i>2</i>	<i>170 m</i>	<i>24 m</i>	<i>15 Tons 10 Tons</i>	<i>18,000 TDW</i>

For above water repairs, quay walls of 500 meter on the northern side and 165 meter on the southern side are available. Above water repairs for vessel of any size and dead weight can be undertaken not only at KSEW premises but also in Karachi harbor and even at the outer anchorage, KSEW carried out emergency repairs on a 250,000 TDW vessel at outer anchorage, as the vessel because of the size could not enter Karachi Harbor. Similarly any alternation / conversion on hull / super structure can be undertaken. For boilers, insulation, lagging, flooring & brick work can be carried out at the yard.

Facilities exist for repairs to steam and motor vessels both main and auxiliary machinery and all types of marine and stationary boilers.

7. SHIP LIFT & TRANSFER SYSTEM (SLTS)

Ship Lift & Transfer System (SLTS) is a mega project of Karachi Shipyard & Engineering Works which is under construction and will be fully operational by the end of 2019. The project bears a great importance in the Maritime industry in the region SLTS has great capability in lifting ships on 8 x repair stations for underwater and above water repairs. SLTS could accommodate different types of vessels upto 7,781tons simultaneously on these platforms, fulfilling all needs of regional marine sector and also enhance the business capacity of KS&EW. Details of Ship repair platforms are mentioned below:

S.No.	Platforms	Length	Breadth
1	02x Repair Station	90 m	25m
2	01x Terminal Area	90m	35m
3	02x Repair Station	75m	25m
4	03x Repair Station	60m	25m

7.1 QUALITY OF WORKMANSHIP

Quality is of paramount importance to the business and providing a service that fully meets the customer's expectations is a key process objective within the company. KSEW is integrated management system certified (i.e ISO 9001:2008, ISO 14001 :2004 and OHSAS 18001:2007) and maintains comprehensive policies and procedures designed to ensure high quality results every time on every project. Further repair work is carried out up to entire satisfaction of 3rd party inspection i.e. Lloyds, BV etc. surveyors.



PN FD-I at south quay wall for above water repair work



PQA Pilot Boat LAHOOT hoisted at south quay wall for repair work on propulsion system

7.2. SHPREPAIR DIVISION CAPABILITIES

Ship repair division is capable to undertake following ship repair works as per international marine standards:

- Overhauling & repair of all types of engines, generators, hydraulic equipment, ship auxiliaries, pumps, valves, compressors, etc.
- Shafting work which includes repairing of rudders, propellers, VSP system, bow thruster system and Z drive system etc.
- Installation, servicing & repairing all type of piping system.
- Installation & repairing of AC & refrigeration system.
- Grit (Abrasive) blasting hydro blasting
- Airless & conventional spray painting.
- Ship hull & deck repair.
- Construction of tanks, stairs foundation & trunkings.
- Repair / renewal of ships fenders.
- Installation of Zinc Anodes.

7.3 SHIP REPAIR WORKS

KSEW ship repair is comprised of man power that is primarily engaged in operation and maintenance facilities with access to dry docking infrastructure & fabrication equipment suitable for the ship repairs, conversion & alteration, the production of components, and specialized services. Repair of ships of PAK NAVY, PMSA, GPA and PQA. During last year ships of subject authorities were successfully repaired up to their entire satisfaction.

7.3

S.No:	Name of Vessel	Client
1	TSHD ABUL	KPT
2	MT SHEHZORE	KPT
3	DT MAZDOOR	KPT
4	PN FD-I	PN
5	PNS KHAIBER	PN
6	SHB BHITSHAH	KPT
7	ZHONG GUO SHUI DIAN B-04	CHINA
8	PNS TARIQ	PN
9	PNS SHAMSHEER	PN
10	PNS RAHNAWARD	PN
11	ZHONG GUO SHUI DIAN B-03	CHINA
12	DWB SAQQA	KPT
13	PNS TIPU	PN
14	PNS ASLAT	PN
15	ENGRO POLYMER & CHEMICAL (BIN QASIM)	ON SITE JOB

REPAIRING OF FOREIGN VESSELS

KSEW has successfully repaired a number of foreign vessels of various countries during last 6 years are listed below:

1. FAIR JULY (UAE)
2. HANGJUN 1007 Peoples Republic of China
3. HANGJUN 1006 Peoples Republic of China
4. MV ZARA Panama
5. MV NYZDAN Korea
6. MT AYFERKA Turkey
7. MV MUSTAFA BAY Turkey
8. MV CAPTAIN MARKUS Turkey
9. ZHONG GUO SHUI DIAN Peoples Republic of China
10. LST BILQUIS Yemen
11. TUG SMIT LOIRE Holland
12. CHINESE DREDGER J06 Peoples Republic of China
13. KARINA DANICA Holland
14. CHINESE DREDGER J05 Peoples Republic of China
15. MV SHARIEF VERVE UAE
16. MV BATANG ANAI Peoples Republic of China
17. ANCHOR BOAT Peoples Republic of China
18. MV SHRIEF PILOT UAE
19. DONG HAIJUN 7001 Peoples Republic of China
20. CSD J09 Peoples Republic of China
21. DONG HAIJUN 7001 Peoples Republic of China
22. LAMNALCO ADEN Singapore
23. ANCHOR BOAT Peoples Republic of China

8. **General Engineering Division**

General Engineering Division KSEW has made significant contribution in industrialization process in Pakistan. Although KS&EW is mainly designed for shipbuilding, however, its role in support of industry and developmental engineering is prominent with long testimonials of service to local industry.

The General Engineering Division (GED) undertakes construction of Package Type Fire-tube Boilers of upto 600 HP - 250 PSI, Water Tube Boilers upto 80 tons/ hour, Pressure Vessels, LPG Tanks, Heat Exchangers, Storage Tanks of all kinds, Gates for Dams, Barrages, Conveyors and Elevators for Chemical, Petroleum and Cement Industries, complete Sugar Plants ranging from 2000 – 5000 TCD capacity, Sugar Mill Machinery, all types of EOH Cranes, Steel Structures and Wind Mill Towers, Flood Light Towers for cricket and hockey stadiums Caravans, Overhead Steel Bridges and Sewage Treatment Plants etc.

GED has been mobilized during recent years and re-established its links with the local industry. In this regard, supply of Sugar Mill components to Bandhi Sugar Mills, refurbishment of Jinnah International Airport's Passenger Boarding Bridge and construction and installation of 10 x Electric overhead cranes for Pakistan Railway's Locomotive shop at Lahore are the recent examples. A new Foundry has also been established in 2014, now fully operational and catering the needs of local sugar mills season by season with Cast Iron, Steel & Non Ferrous castings.

GED has also commenced all fabrication of steel structures and peripheral accessories of Ship Lift and Transfer System with the project time lines of 20 Months precisely with the imported steel, with a business quantum of USD \$5.2 M.



SLTS Contract Signing Ceremony at MoDP Rawalpindi

8.1 Projects Completed FY 2017-18

- Fabrication of Outer Hull Structure (Ballast Panels), Aluminum Casing and Sail Assembly of PNS/M. HASHMAT for Pakistan Navy.
- Re-Shelling of 55x Sugar Mill Rollers for Various Sugar Mills.
- First ever export order of KSEW, supply of 5x Mill Rollers delivered to Cebu Port Philippine, KSEW GED exported total 8x Mill Rollers to Philippine & Thailand.
- Manufacture & Supply of 3 Nos. Sugar Mill Roller Shafts for Various Sugar Mills.
- Casting of Sinker Weights for Pakistan Navy Fleet Tanker.
- Re-building/Repairing by Welding, Machining & Grinding of Rollers for Power Cement Ltd.

- Machining of Kiln Support Roller for Lucky Cement Ltd.
- Fire Resistant Test of Almirah through Abdullah & Sons for State Bank of Pakistan.
- Re-building & Machining of Mill Head Stock for Khairpur Sugar Mills Ltd.



E.O.H Cranes Successfully Installed

8.2 Orders in Hand

- Fabrication and Installation of Steel structure with accessories of Ship Lift and Transfer System at KSEW.
- Manufacturing, Installation and Commissioning of 2x 30/5 Tons capacity Electric Overhead Cranes for Pakistan Railways Workshop Karachi Cantt.
- Manufacturing & Supply of 55 Nos. C.I. Alloy Shells for Various local Sugar Mills including exports to Thailand & Philippine.
- Manufacturing, Installation and Commissioning of 2 x 10 Tons capacity Double Girder Electric Overhead Crane for SWCD and Pre-Fabrication Shop of SB Div.
- Manufacturing, Installation and Commissioning of 30/5 Tons capacity Double Girder Electric Overhead Crane for Steel Construction Shop.

- Manufacture, Supply, Erection & Commissioning of 30/5 Ton Capacity Over Head Cranes for Machine Shop/Foundry at KSEW.
- Fabrication of PS Ballast Panels & Sail Assembly for PNS/ M HAMZA
- Fabrication of PS Ballast Panels & Sail Assembly for PNS/ M KHALID
- Fabrication & Machining of Embedded Parts for SL&TS for TTS Synchronlift, Norway.
- Manufacture & Supply of Shim Plates 6286 Nos. for SL&TS for TTS Norway.
- Re-building/Repairing by Welding, Machining & Grinding of Rollers for Power Cement Ltd
- Machining of Submarine Rotors for PN Dockyard Karachi.
- Repairing of Steel Structure & Main Boom of Luffing Crane # 5 capacity 30 Ton for Ship Repair Division KSEW.
- Manufacture of Keel Blocks for Docking of Ship in Dry Docks at KSEW.
- Fabrication of MS Scaffolding Plans with Clamps for Paint Shop KSEW SB Division.
- Fabrication & Installation of Steel Roof Trusses for Steel Construction Shop, Repair & Refurbishment of Steel Roof Frames for SWCD Shop KSEW.

8.3 Future Projects

- Manufacturing, Installation and Commissioning of 1x 10/3 Tons capacity Electric Overhead Crane for Pakistan Railways Workshop Marshall Yard Pipri, Karachi
- Manufacture & Supply of Sugar Machinery Items for Various Sugar Mills.
- Manufacture & Supply of C.I. Alloy Roller Shells for Various Sugar Mills
- Fabrication of Ballast Panels & Sail Assemblies for PNS/M KHALID.
- Barrage Gates 10x (Size 60 ft x 22 ft) of Guddu Barrage for DESCON.
- Barrage Gates 3x Panjnad for Ramzan & Sons.
- Import & Installation of 14x EOH Cranes for Up-gradation of KSEW Projects.

- Repairing of Steel Structure & Main Boom of Luffing Crane # 6 capacity 30 Ton for Ship Repair Division at KSEW.

9. **SHIP LIFT AND TRANSFER SYSTEM PROJECT**

1 Name of Project . Installation of Ship Lift & Transfer System & associated machinery & equipment to provide Docking and repair facilities to surface Ship, Submarines and Commercial Vessels.

2 Scope in Brief / . Objectives

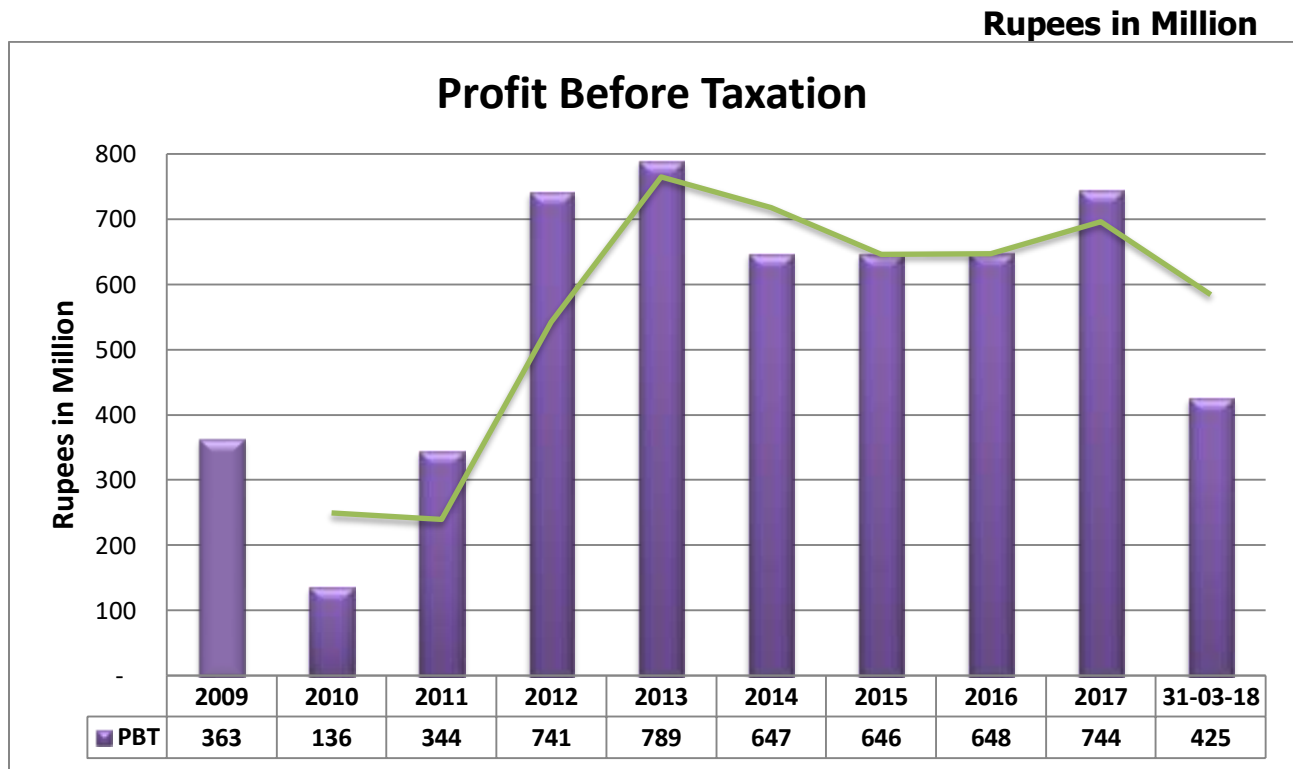
1. Supply and Installation of Ship Lift and Transfer System equipment.
2. Marine and General Civil Works for SLTS Project.
3. Set up of Services at Repair Stations.

3.Details of Targets and achievement .

1. Marine and General Civil Works part of the Ship Lift and Transfer System Project is progressing for on and off-Shore works. The off shore works (Dredging, Quay structure front beam and jetty structure) as part of Sec-1 works are in progress. The on shore works (Piling works in section -2) is in full swing. The works has picked up pace from Feb 2018 against planned from Nov 2017.Physical progress is about 66%.
2. Contract for SLTS equipment supply became effective in Sep 2017.LR approved design and drawings, Rail, Rail crossing and soleplate have been received. Platform and trestles manufacturing work is in progress. The progress so far is 33%.

10. FINANCIAL PERFORMANCE

KS&EW has made a remarkable turnaround over the years from losses to accumulated profits to become a profit bearing entity of MoDP. Following is the graphical presentation of year wise profit before taxation:



Since 2010, KS&EW has contributed Rs 3.157 Billion in government treasury as tax. Profit making trend is likely to continue, as all business units of KS&EW are working at full capacity. Taxes amounting to Rs 264.49 M against income tax and 232.95 M against sales tax during FY 2017-18, were deposited with the exchequer.

In FY 2017-18, KS&EW converted its accumulated losses into reserves. This was made possible through focus on improved quality and cost reduction. Management diligently monitored progress of projects and exercised strict budgetary control resulting in increase of Gross Profit by 12% in FY 2017 as compared to previous financial year. Management is strives to maintain this upward trend in future periods as well.

11. WELFARE MEASURES

- To promote Islamic way of life :
 - A mosque within the premises where prayers including Friday Prayers are offered. Employees of adjacent organizations are also allowed.
 - Huffaz Quran employees / workers are given special increment as incentive.
 - Hajj / Umrah arrangements to employees at KS&EW expense are made, during 2017-18, 5 employees were sent to perform Umrah and 4 for performance of Hajj.
- In its endeavor to support employees and their families KS&EW provides medical facilities, daughter marriage loan, children education as detailed below:
 - Medical facility with ceiling Rs 8,000 per month is extended, while laboratory tests etc. is borne by KS&EW. In case of hospitalization full re-imburement is given
 - Daughter marriage loans are also granted to employees throughout the year (Rs 125,000/- each).
 - Education Fee for children of workers is borne by KS&EW, during 2017-18 an amount of Rs 806,900/- was disbursed to employees against education fee of their children.
- Organization offers training facilities to matriculation qualified individuals. Trade internship scheme in shipyard in a continuous process, students trained with updated technical skills.
- With courtesy of NAVTTC, courses are extended to youths in various trades including Crane operator, Fitter, Welder, Carpenter, Auto CAD, Diesel Mechanic etc. New building of Shipyard Institute of Technology with modern facilities has been constructed.
- Subsidized lunch facility is provided to all employees.
- Funeral expenses to the legal heirs of deceased employee amounting to Rs 100,000/- in case the employee is a resident of Karachi and Rs 125,000/- in case the employee hails from outside Karachi
- Death grant amounting to Rs 500,000 to the legal heirs of deceased employee, in case of his death during service.

PART – III

APPENDIXES, ABBREVIATIONS & ACRONYMS

HEADS OF MINISTRY OF DEFENCE PRODUCTION



Mir Hazar Khan
Bijarani
Nov 1991 to April 1993



Mr. Aftab Ahmed Khan
Sherpao
April 1993 to May 1993



Mr. Ellahi Bux
Soomro
June 1993 to July 1993



Lt Gen Rahm Dil
Bhatti (Retd)
Aug 1993 to Sept 1993



Maj HabibUllah
Waraich (Retd)
Dec 2002 to Nov 2007



Syed Salim Abbas
Gillani
Nov 2007 to Mar 2008



Rana Tanveer
Hussain
Mar 2008 to May 2008



Mr. Abdul Qayyum
Khan Jatoi
Nov 2008 to Oct 2010



Makhdoom
Shabuddin
Dec 2010 to Feb 2011



Mian Manzoor
Wattoo
March 2011 to May 2011



Ch. Pervez
Ellahi
May 2011 to Jun 2012



Sardar Bahadur
Ahmed Khan Sehar
Jun 2012 to Mar 2013



Rana Tanveer
Hussain
June 2013 to June
2018



Zobaida Jalal
Aug 2018 to to date

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LIST OF FORMER FEDERAL SECRETARIES/PAOS OF MODP

S.No	Name	From	To
1.	Mr. Abdul Hamid SQA, TPK	22-07-1972	30-11-1973
2.	Mr. Masood Hasan	30-11-1973	01-12-1977
3.	Mr. Tariq Mustafa, Addl Secy Incharge	01-12-1977	19-04-1981
4.	Vice Admiral Ahmed Zamir, HI(M), SJ	19-04-1981	28-08-1982
5.	Mr. Abdul Majid Mufti	29-08-1982	16-07-1985
6.	Maj Gen (R) Anwar Masood, A/Secretary Incharge	01-08-1985	22-02-1986
7.	Mr. Tariq Mustafa, Addl Secy Incharge	23-02-1986	12-04-1986
8.	Mr. Tariq Mustafa	13-04-1986	26-06-1988
9.	Lt Gen (R) Talat Masood, HI(M), S Bt.	26-06-1988	11-10-1990
10.	Maj Gen (R) Riaz Ahmed Chaudhari, A/Secretary	12-10-1990	17-12-1990
11.	Dr. Akhtar Hasan Khan	17-12-1990	20-05-1991
12.	Mr. F.I. Malik	21-05-1991	26-12-1992
13.	Mr. Mazhar Rafi	27-12-1992	28-02-1997
14.	Lt Gen (R) Lehrasab Khan, HI(M), SJ, SBt.	01-03-1997	28.02.2001
15.	Air Marshall (R) Zahid Anis, Secretary	01-03-2001	28-02-2005
16.	Lt Gen (R) Ali Muhammad Jan Orakzai	01-03-2005	23.05.2006
17.	Lt Gen (R) Shahid Siddiq Tirmizey	09.06.2006	08.06.2009
18.	Lt Gen (R) Israr Ahmed Ghumman	09.06.2009	08.06.2011
19.	Lt Gen (R) Shahid Iqbal	23.06.2011	22.06.2013
20.	Lt Gen (R) Tanvir Tahir	04.07.2013	03.07.2015
21.	Lt Gen (R) Syed Muhammad Owais	08.07.2015	07.07.2017
22.	Lt Gen (R) Muhammad Ijaz Chaudhry	17.07.2017	To date

ABBREVIATIONS & ACRONYMS USED IN THIS BOOK

AsDP	Attaches Defence Procurement
AMF	Aircraft Manufacturing Factory
APF	Avionics Production Factory
APU	Auxiliary Power Unit
ARDE	Armament Research and Development Establishment
ARF	Aircraft Rebuild Factory
ATR	French-Italian Aircraft (English Regional Air Transport)
AVLB	Armed Vehicle Launched Bridge
CMA	Controller Military Accounts
DAC	Departmental Accounts Committee
DCC	Defence Coordination Committee
DDC	DEPO Display Centre
DEPO	Defence Export Promotion Organization
DGDP	Directorate General Defence Purchase
DGMP	Directorate General Munitions Production
DP R&D Board	Defence Production Research and Development Board
DPEs	Defence Production Establishments
DPs	Directorate of Procurements
DW&CE(DP)	Directorate of Works & Chief Engineer
FATA	Federally Administered Tribal Areas
FED	Foreign Earnings Deduction
GOP	Government of Pakistan
GSO	General Staff Officer
HIT	Heavy Industries Board Taxila
IDEAS	International Defence Exhibition and Seminar
IDEF	International Defence Exhibition and Fair
KPT	Karachi Port Trust
KS&EW	Karachi Shipyard and Engineering Works
MoD	Ministry of Defence
MoDP	Ministry of Defence Production
MVRDE	Military Vehicles Research and Development Establishment
NOC	No Objection Certificate
PAC	Pakistan Aeronautical Complex
PAC	Public Accounts Committee
PAEC	Pakistan Atomic Energy Commission
POFs	Pakistan Ordnance Factories
PPRA	Public Procurement Regulatory Authority
PQA	Port Qasim Authority
PSDP	Public Sector Development Programme

ABBREVIATIONS & ACRONYMS USED IN THIS BOOK

SADA	Special Army Disbursement Account
SBP	State Bank of Pakistan
ToT	Transfer of Technology
UAV	Unmanned Air Vehicle
WBM	Wah Brass Mill
WIL	Wah Industries Limited

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MAJOR PROJECTS BY DGMP SIGNED DURING 2017-18

Ser	Projects Signed during the Year
1.	Indigenous Dev of DSCR (NW)
2.	SDRs Software Defined Radios
3.	Indigenous Dev of Supersonic Missile for PN
4.	Indigenous Development of Fire Jeeps for PN
5.	Indigenous Development of Harbah Weapon System for FAC (M)-4 (Improved version)
6.	Pincushion Correction Card of PDU
7.	VHF Radar
8.	Synchro Buffer
9.	Mode Sequencer
10.	Data Buffer
11.	Interface & Control
12.	TR Limiter
13.	Line Collector Converter Card
14.	Grid Modulator Card
15.	L-Stalo Synthesizer
16.	Search Elaboration Board
17.	Timing & Communications Board
18.	EHV Tank Radar
19.	Synth Box TFH14308
20.	Video Board (VID)
21.	Tracking Elaboration Board
22.	Safety Logic Card
23.	CPU Card THB13103
24.	IF Tracking
25.	Pre IF (PIF)
26.	IF Search
27.	Saw Oscillator & Distributor
28.	1238/IF Tracking 1

MAJOR PROJECTS BY DGMP COMPLETED DURING 2017-18

Ser	<u>Projects Completed during the year</u>
1.	FCU 60 KVA
2.	Trailer Flat Bed for UAV Shelter
3.	Construction of Fast Attack Craft (Missile) for PN
4.	Construction of Multi Purpose Barge for PN
5.	Servo Mach Meter for Mirage A/C
6.	Smart Multi-Function Colour

MAJOR PROJECTS 2006-2018

Following are major projects:-

- ✓ Local Manufacturing of VHF Frequency Hopping Radios (9600 Series)
- ✓ Up-graded PRC-77 Radios
- ✓ Automag 4+12 lines
- ✓ Distribution Point Box (DP)
- ✓ Digital Electronic Field Telephone Exchange PFX-6416
- ✓ Digital Electronic Field Telephone Exchange PFX-3208
- ✓ Field Auto Telephone Exchange PFX-1604
- ✓ Electronic Field Telephone (EFT-101) with and without Keypad Dialer
- ✓ Ruggedized Auto Field Telephone (RAFT-786)
- ✓ Distribution Point Boxes
- ✓ Cross-Connection Cabinets
- ✓ Power Supplies
- ✓ Walkie Talkies
- ✓ Dual Battery Charger
- ✓ Antenna RC-292
- ✓ Land Mobile Radios (SK-2 System)
- ✓ Software Defined Radios (SDR)
- ✓ Solar Solutions
- ✓ RCIED Jammers
- ✓ Explosive Ordinance Disposal
- ✓ Home Land Security System
- ✓ COMMNET, Communication & Networking
- ✓ Intelligence Equipment – Digital Investigation Suite
- ✓ Security and Surveillance System
- ✓ High Security Prison
- ✓ TETRA Solution