



DEFENSE  
INDUSTRIES  
ORGANIZATION

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**SECTION**  
TECHNOLOGY  
& KNOW-HOW  
TRANSFERRING

**8**



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## ▣ TECHNOLOGY & KNOW-HOW TRANSFER:

With employing experienced personnel having the expertise of various engineering skills as well as using all types of machineries required for projects execution, the Defense Industries Organization is well prepared to offer high services in technical engineering services, procurement, construction, installation, commissioning, training, start up and operation of large military and civil projects in the form of EPC contracts.

In this regard, the strategy of D.I.O is always based on optimization of the golden triangle of projects i.e. Quality, Time and Cost.

Concerning military projects, the long experience of operating production lines with wide range of products and applying active interaction with world famous technologies owners as well as research and optimization on production plants, has enabled the Organization to transfer the technology to foreign countries.

This capability at present time covers Turn Key transferring technology for production of around 100 items including various types of explosive materials, ammunition, armaments and defense systems.



On civil products and projects, DIO has extensive facilities and impressive records in mass production projects, dam construction, road construction, and manufacturing special equipments for oil, gas and petro-chemical industry such as compressed vessels, heat exchangers and big compressors. Industrial valves, airplane tires, CNG cylinders and kit parts, alloy steels of metallurgy and casting industries, types of high tonnages in steel structures , cement factories, production units of industrial oils additives, chemical industries plants such as large plants of sulfuric acid, nitric acid, ethanol, pesticides, etc, are other fields of DIO activities.

Executive method of DIO for transferring technology is based on project management standard with consideration of the latest improvement made on customer contracted production lines. Complying with engineering principles, DIO pays serious attention to quality promotion, safety and automation of production lines under technology transfer contracts and tries to optimize total product cost by applying the latest improvements on production technology.



If the customer requests a Turn Key technology transfer, the contract scope may be as follows:

- Know how and engineering design
- Procurement and industrial construction
- Building construction
- Installation and industrial execution
- Training
- Technical Assistanes
- Start Up, Trial Run, Performance Test and Line Deliver

If the buyer possesses enough facilities and capability in building construction, installation and commissioning, then the seller has just an obligation of supervision on performance of such activities.

- Upon receiving customer's request, a technical commercial proposal of the production line requested, is submitted accordingly. This proposal consists of three separate sections including Technical section, Commercial section and Time schedule. They are so adjusted that the customer can easily realize what services, at what cost and when it shall be delivered.

- Definition of deliverable services in DIO. TT contracts are based on standard models so that all characteristics of a suitable technology are met for the buyer.



- In the engineering phase, the Document Register of the project will be prepared and delivered to the buyer, firstly so that his comments on the types and quality of design documents can be considered.

Designing is done in two phases as Basic and Detailed and the manuals for commissioning, utilization and quality control are also provided in engineering phase.

- In the procurement phase, the sources are selected from an Approved Vendor List, their documents are examined carefully, authenticated and all manufacturing stages will be under supervision and monitoring and finally each equipment is taken together with relevant Final Book.

- In addition to theoretical training, the practical one in similar factory will also be provided so that the buyer's experts are well prepared for operating the production line.

- Provisional and final commissioning is effected under DIO supervision and after performance test, the production line is delivered to the buyer. The warranty period services will be defined and given as per contract conditions after commissioning.

- The main strategy of DIO in IT contracts is to keep credibility and good reputation through enhancement of customers' satisfaction level.



**Ammunition & Metallurgy Industries Group (AMIG)**

The technical proposals that can be submitted by the Group:

No	Description of technical knowledge	28	Producing of Machinery for different type of Detonators production line & Material Manufacturing
1	Anti-Tank Ammunition , Luminous type of BM 22		
2	Anti-Tank Ammunition , Luminous type of BM 42		
3	Valve for Head of CNG Vessel Kit		
4	One-sided Valve for CNG Vessel Kit	29	Mobile Production line of Filling the Ammunition
5	Gasoline Valve for CNG Vessel Kit		
6	Pressure Gage for CNG Vessel Kit	30	Production line of Alarming Signals system
7	Cutting Tools in different types		
8	Water Coolers	31	Montage line of Handy-Grenade, small & middle caliber Ammunition
9	Illuminating Ammunition 155 MM		
10	Ammunition 155 MM BB		
11	Ammunition 122 MM BB	32	Production line for Merssad product Type of YM-II, YM-III & YM-IV
12	Ammunition 130 MM BB		
13	Production line of Cartridge 7.62 x 39		
14	Production line of Cartridge 7.62 x 51		
15	Production line of Cartridge Lugar 9 x 19 MM		
16	Ammunition 23 MM Surface to Air		
17	Ammunition 30 mm for Armored Vehicle		
18	Production line of Metal Cases		
19	CNG Vessels		
20	Screw & spring for Rail application		
21	Powers tables , invertors , inductor Furnaces		
22	Mortar 60 MM with the range of 2500 & 3200 meters		
23	Mortar 81 MM with the range of 5200 & 6350 meters		
24	Mortar 120 MM with the range of 6500,7200 & 10000 meters		
25	Steel Grenade ( Training & Army )		
26	Detonator of 7.62		
27	Industrial Valves for Irrigation System		



**Armament Industries Group (AIG)**

The technical proposals that can be submitted by the Group:

No	Description of technical knowledge
1	Production line for Mortar launchers 60, 81, 120mm (standard & commando)
2	Howitzer Gun 122mm (model of D30I), 155mm (model IH )
3	Various Types of Barrels for Gun & Tank Calibers 100, 105, 122, 125, 130 & 155mm
4	Rocket Launcher 122 mm (40 Barrels) & 8 Barrels with vehicle, Commando Single – Barrel, Marine 240 mm
5	Production line of Half-constructed parts by using specific & classic casting procedures
6	Rocket Launcher 107 mm 12 Barrels, with mediator carriage both by Vehicle & carrier, Two& single Barrels (Commando)
7	Rocket Launcher 107 mm (19 Barrels)
8	Anti-Tank Rifle 106 mm installable on vehicle
9	Anti-Tank Missile of SPG9 with three landing base, installable on vehicle
10	Shoulder Missile Launcher RPG 7
11	production lines for Alloy Steel ( in different types )





**Rocket Industries Group (RIG)**

The technical proposals that can be submitted by the Group :

No	Military product
1	Katyosha 122mm (Arash standard- short range)
2	Rocket 333mm (Fadjr5)
3	Rocket 240mm (Fadjr3)
4	Rocket 107mm (Fadjr1)
5	Rocket 333mm (Falaq2, short range)
6	Rocket 240mm (Falaq1, short rang)
7	Rocket PG7-V (Fath)
8	Rocket PG7 (SAEQE / Pellets)
9	Rocket PG7 (SAEQE fragmentation)
10	Rocket launcher Fadjr3 & 5 in Box Form & Automation
11	Cartridge Clipper of Fadjr3 & 5 in Box Form
12	Vehicle for Command & service Cabin



**Vehicle & Equipment Industries Group (VEIG)**

The technical proposals that can be submitted by the group :

No	Description of technical knowledge
1	Modernization of Tank T-55
2	Production line of Bouraq Armored Personnel Carrier
3	Overhauling of Tank, Series T
4	Producing of Mine Sweeper Equipment
5	Technical training of using the Armored Equipment of Tanks Series A & Armored Personnel Carrier BMP
6	Production line for Anti-bullet Helmet & jacket
7	Wheeled Armored Personnel Carrier 4x4
8	Tactical Vehicle 1/4, 3/4, 1- 1/4 Ton
9	Producing of Cabins for Auto-Bus , Model MAN, Benz & Middle Buses



### Chemical Industries Group (CIG)

The technical proposals that could be submitted by the group :

No	Topic of technical knowledge Overall Width (with Side mirrors)	Type of product
1	Production line for ball powders	Different Types of Double based powder
2	Production line of Nitrocellulose & Alfa-cellulose	Different Kinds
3	Production line of Nitroglycerin	Nitroglycerin 300-600 KG Per hour
4	Production line for Arbitrator Materials	Sulfuric, Nitric & Oluem Acid , Alcohol , Eater & Tetra Azot Anidric Acetic , Acetic Acid , Glassyal & Astaltheid
5	Production line of propellant Mortar 60 , 81,120,	Horse shape & burning Case
6	Production lines of Detonating Cord & safety Fuse	Various Kinds of detonating Cord & slow burning Fuse
7	Emulsion Cartridge explosives	Emulsion in Industrial application such as Road Construction, Mines ...
8	Per-chlorate Ammonium production line	Per chlorate Ammonium in different grain size of I, II, III, IV
9	Production line for T.N.T	Various Types of T.N.T Pentolite Booster (Cast Booster)
10	Production line of RDX, HMX, PETN	Different Types of RDX, HMX, (Akfel, Pentastite, C4, TourPax...)
11	Production line of Different Types of Cellulose propellant	Various Kinds of single, Double & triple powder Combustible Pulps for Missile
12	Production line for phosphoric Product	White & Red Phosphor, Types of Acid Phosphoric
13	Different Kinds of Pesticide	Different Kinds of Pesticide, morpholine, orgafus
14	Different Types of C.M.C	Drilling & Detergent grades



**Special Industries Group (SIG)**

The technical proposals that can be submitted by the group:

No	Topic of product
1	Preventing Pollution system , DSM 3500 & DSM 2000
2	Capsule of preventing pollution D3
3	Mask
4	Filter
5	Hepa Filter
6	Blood – Bag
7	Microbiologic Hood
8	Clean Room

