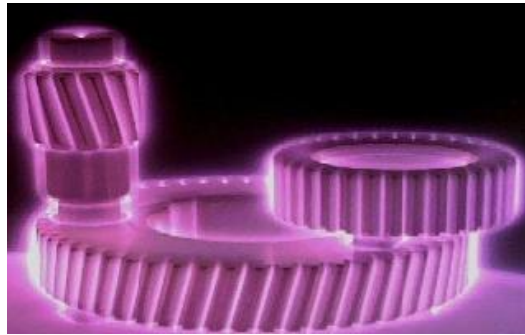


**TRANSFER OF TECHNOLOGY**  
**(On Non-Exclusive Basis)**  
**CALL FOR**



**EXPRESSION OF INTEREST (EOI)**

**Expression of Interest is invited for transfer of technology of “Plasma Nitriding” used for surface hardening of all ferrous materials for improved wear and corrosion resistance.**



**Introduction**

**Plasma Nitriding** is a surface hardening process, in which nitrogen is diffused in to the components surface. Plasma nitriding produces high surface hardness, good wear resistance, increased fatigue strength and toughness.

**Advantages of Plasma Nitriding**

- Reduced (by 20-50%) treatment cycle compared to gas nitriding process.
- Better process control and automation.
- Higher surface hardness can be achieved (up to 1200 HV, 70 HRC).
- Better dimensional stability (lower distortions) due to lower process temperature and uniform heating.
- Cases with uniform depth are formed even over parts with complex shapes.
- Easier masking for selective nitriding.

- Lower energy consumption
- Reduced gas consumption.
- Safer operation.
- Environment Friendly Process (Green Technology)

### **Material for Plasma Nitriding**

- En8, En19, En24, En47, En41B
- All types of stainless steels
- Hot working steel
- High speed steel
- Cold work steel
- Valve steel
- Oil hardening steel
- Cast iron

### **Applications**

- Cutting tools
- Forging dies
- Drawing dies
- Molds for Transfer molding and Compression molding of polymers
- Machine and automotive parts like gear wheels, valves, lifters, cams, rocker arms, crankshafts

### **Specifications \***

|    |   |                                 |
|----|---|---------------------------------|
| 1. | Dimensions of Vacuum Chamber                              | 800mm diameter and 800mm height |
| 2. | Multiple size components                                  | Stacking is possible            |
| 3. | Weight of material that can be nitrided in a single batch | Maximum up to 100 Kg            |
| 4. | Input Power requirement                                   | 3 phase, 40KW                   |
| 5. | Database of 20 different types of steel.                  |                                 |

***\*Details of specification will be provided to selected parties during the process of transfer of technology.***

**Interested parties are requested to submit the Expression of Interest (EOI) in the prescribed format (ANNEXURE-1) along with supporting documents/credentials and application processing fee of Rs. 500 for seeking technology transfer of Plasma Nitriding Technology.**

## Terms and Conditions

1. The application form (ANNEXURE-1) should be duly filled with all supporting documents along with a processing fee of Rs. 500.
2. Last date of receiving the application form is **23<sup>rd</sup> June 2014\***. Any offer received after due date will be rejected.
3. An expert committee will scrutinize the applications for follow-up actions. Shortlisted applicants will be called for a presentation regarding their strengths and business proposals. Further, details of the technology will be disclosed only to the shortlisted applicants.
4. The Director, IPR reserved the right to accept or reject any application in full or part thereof without assigning any reason thereof.
5. The industry willing to take the technology shall be required to enter into a Technology Transfer Agreement with Institute for Plasma Research as per the terms and conditions approved by the competent authority.

***\*This information may be opened once again in the near future.***

## Who should apply?

Interested parties with Engineering & Scientific knowledge, good financial background and adequate experience in vacuum furnaces and heat treatment & fabrication can apply.

### **Duly filled application form should be sent to:**

Dr. S.B. Gupta,  
Technology Commercialization Cell,  
FCIPT, Institute for Plasma Research,  
A-10/B, GIDC, Sector-25  
Gandhinagar-382044 (Gujarat)  
Phone: 079-23269022  
Email: [iprtt@ipr.res.in](mailto:iprtt@ipr.res.in)

### **Note:**

1. Application processing fee of Rs. 500 for each technology.
2. Duly filled EOI application must be enclosed with the Demand draft/bankers cheque as application processing fee drawn in favour of **Institute for Plasma Research, A/c FCIPT** and must be sent to the above mentioned address.