



## EMERGING PARADIGM OF STRATEGIC R&D ALLIANCE VIS-A-VIS CORPORATE INTERNATIONAL COMPETITIVENESS

*Rajendra Prasad\**

**T**HERE is a growing internationalization of research and development (R&D).<sup>1,2,3,4</sup> One way of internationalizing of R&D is by establishing R&D centres in foreign locations. Many multinational companies in recent years have set up their R&D centres in different countries away from their home country. It has been observed that this tendency has been influenced both by demand and supply side factors associated with firms' R&D activities.

The other way of internationalizing R&D, besides relocation of R&D, is through external technology sourcing that can either be undertaken through outsourcing or through R&D alliance.

Promotion and management of successful strategic R&D alliances has today become a key element in science and technology policy to ensure growth in innovation and global competitiveness of the industry. This paper deals with various dimensions of strategic R&D alliances both in public funded laboratories as well as in industry with a view to drawing lessons that help us sustain innovative research partnerships for global leadership.

### **International R&D Collaboration in Public Funded Institutions**

Most public funded research organizations such as Council of Scientific & Industrial Research (CSIR), Indian

\* Joint Advisor, International Science and Industrial Affairs Directorate & Scientific Secretary to Director General, CSIR, New Delhi. The contents of the article are largely based on the published literature. The views expressed are those of the author in his individual capacity and need not be construed as a policy of CSIR or the Government of India.

**Note:** R&D groups in industry seeking to establish linkages with CSIR scientists involved in international cooperative programmes are welcome to contact the author for initial queries.

Space Research Organization (ISRO), and Indian Council of Agricultural Research (ICAR), etc. tend to have collaborative arrangements with their counterpart agencies abroad. In addition, the scientific departments such as Department of Science & Technology (DST), Department of Biotechnology (DBT), etc. also have agreements for bilateral cooperation with various countries where political relations permit strengthening of cooperation in scientific & technological fields. Tables 1 and 2 show illustrative list of the countries with whom DST and CSIR have established bilateral links.

**TABLE 1**  
COUNTRIES FOR BILATERAL S&T COOPERATION:  
DEPARTMENT OF SCIENCE & TECHNOLOGY,  
GOVT. OF INDIA

Australia	Kazakhstan	Slovenia
Argentina	Kyrgystan	Sri Lanka
Aremenia	Malaysia	S. Africa
Bangladesh	Mauritius	Syria
Belarus	Mexico	Tajikistan
Brazil	Moldova	Thailand
Bulgaria	Mongolia	Trinidad & Tobago
China	Myanmar	Tunisia
Cuba	N. Korea	Turkey
Egypt	Oman	Ukraine
Estonia	Peru	UK
France	Philippines	USA (NSF)
Germany	Poland	Uzbekistan
Hungary	Portugal	Venezuela
Indonesia	Romania	Vietnam
Iran	Russia	Yemen
Israel	S. Korea	Yugoslavia
Italy	Singapore	Zambia
Japan	Slovak	

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**ISSN 0972-1460**

**SUBSCRIPTION RATES**

Single Copy : Rs 100 ; \$5  
Annual Subscription : Rs 360 ; \$18

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Printed and published by **P.K. Puri**, Registrar, for Indian Institute of Foreign Trade, B-21 Qutab Institutional Area, New Delhi-110016 with support of Department of Scientific & Industrial Research at Aristo Printing Press, New Delhi.

TABLE 2  
INTERNATIONAL INSTITUTIONAL ARRANGEMENTS OF CSIR  
FOR BILATERAL S&T COOPERATION

<b>Australia:</b> DITAC (now DIST), CSIRO, ACIAR	<b>Italy:</b> CNR	<b>Russia:</b> Ministry of S&T
<b>Bangladesh:</b> BCSIR	<b>Japan:</b> AIST, NIO-JAMSTEC, CMRI, NEERI-GAP	<b>Saudi Arabia:</b> SASO
<b>Brazil:</b> CNPq	<b>Jordan:</b> RSS	<b>Slovak:</b> Academy of Science
<b>China:</b> NSFC, SBTS, CAE,	<b>Korea:</b> NAL-KAIST, CSMCRI-KIER, RRLBHU-KIGMM	<b>Sudan:</b> SNCR
<b>Czech:</b> Academy of Sciences	<b>Kuwait:</b> KISR	<b>Syria:</b> SSRC
<b>Egypt:</b> ASRT	<b>Mongolia:</b> ASM	<b>The Netherlands:</b> TNO
<b>France:</b> CNRS	<b>Nepal:</b> RONAST	<b>Thailand:</b> TISTR
<b>Germany:</b> KFA (FzJ), DAAD, DLR, NAL-RWTH, Aachen, A v Humboldt Foundation, FhG	<b>New Zealand:</b> DSIR	<b>Turkey:</b> TUBITAK
<b>Guyana:</b> IAST	<b>Nigeria:</b> NBRI	<b>UK:</b> ICRF, CBT-UMIST, Univ. of Sheffield, South Bank Univ., BBSRC
	<b>Peru:</b> CONCYTECH	<b>Vietnam:</b> NCST
	<b>Poland:</b> PAS	

**Advantages of International Cooperation**

Government sponsored programmes of international cooperation even though these are usually at pre-competitive stage of industrial research or in the realm of frontier areas and blue-sky science are stated to result in the following advantages:

- Training and learning for skills development
- Cost sharing of the proposed research
- Acquiring knowledge about diverse cultures and foreign markets
- Acquiring knowledge about Government standards and regulations of the target markets

The public institutions in many advanced countries, notably in Japan through its Ministry of International Trade and Industry (MITI), have vigorously promoted international industrial R&D cooperation in the domain of standardization so as to ensure the sound development of international trade.<sup>5</sup>

**Emerging Paradigm of International R&D**

The organization of industrial R&D in many parts of the world is transforming dramatically due to globalization of the world economy. Evidence of this can be seen in:

- (a) the growth in the relative importance of inward and outward research-related foreign direct investment (FDI);
- (b) the explosion of international strategic alliances and the increasing trade in technology-intensive goods.

Foreign subsidiaries are now responsible for a substantial share of R&D in each region. For example, in OECD countries, about 12 per cent of total manufacturing R&D investment is by foreign subsidiaries. This contribution is expected to grow. The contributions of foreign affiliates, however, range widely by country in every region; for example in OECD countries, this ranges between a low of 5 per cent for Japan and a high of over 60 per cent for Ireland.

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It may be noted that European firms tend to be more internationalized in their overseas R&D investments than the US firms, which are themselves more globalized than Japanese firms. Firms based in smaller countries, such as the Scandinavian nations and the Netherlands, do not have a large domestic market and if they are to undertake the R&D projects, they have to exploit the results internationally. Thus, cooperation with institutions and firms in different countries could give varied experience and outlook.

### **Foreign R&D Laboratories**

The number of foreign laboratories is another indicator of how much research has become global. A study of 32 international pharmaceutical and electronic companies shows that the number of new foreign affiliate laboratories almost tripled in 1985-95 compared with the previous decade. The experience of the pharmaceutical industry is not typical of all industries, however, because strict regulation favours direct investment over trade as an entry strategy. Moreover, though the establishment of new R&D sites abroad accelerated in the 1980s, some firms have had foreign laboratories since well before World War II. Nevertheless, in USA, there are at least 635 foreign-owned and free-standing R&D facilities, more than half of which were established after 1986. In Europe, in 1995, there were over 300 Japanese R&D facilities, twice as many as in 1989.

In India too, as many as 60 foreign MNCs have established their R&D centres during the last 5 years. The prominent among them being that of Texas Instruments, Intel, Microsoft, Cisco, i2 Technologies, EDS, Daimler Benz and John Welch Technology Centre of General Electric. Intel and John Welch Technology Centre both employ more than 1,500 local scientists. This strength is going to be increased many folds in next few years.

A major part of CSIR international activity, besides bilateral cooperation through institutional arrangement with similar organization elsewhere, in collaboration with leading scientific organizations and companies, mostly in USA and Europe, where many well established partnerships and sponsored research contracts allow CSIR to maintain its position at the cutting edge of research and technology. CSIR units have responded to the changes in the industrial, economic and trade policies introduced by the Government to successfully integrate the Indian economy in the global scene. Successful technology transfers have been achieved in various fields like drugs, agro-chemicals, petroleum refining, wood substitutes, water proofing compounds and effluent treatment. CSIR laboratories have joined hands with several multinationals and globally renowned business

houses like Parke Davis, DuPont of America and Mitsui of Japan. CSIR has linkages with a number of multinational companies, e.g., General Electric, DuPont, Novo Nordisk, Akzo, Neste, Boeing, Abbott, General Motors and so on.

### **International Research Networks**

The power of information technology has not only given boost to informal research collaboration worldwide but also given rise to large international research networks. Interestingly, many of these networks have substantial backing of public funding and institutional support. Many subject specific cooperation networks are now growing with appropriate institutional framework.

By way of example, the emerging networks in the materials research could be cited. Some of the pioneering work done in this area is by the European Union and National Science Foundation of USA. During the last five years, NSF has co-sponsored a series of international workshops in materials research designed to stimulate enhanced collaboration among materials researchers and created networks linking the participating countries.

The following networks have so far been established:

- US-Americas including Canada and Mexico
- US-European Commission
- US-Pan America including Brazil, Argentina, Chile, Uruguay and Venezuela
- US-Asia Pacific
- US-South Africa including many other African countries

As many as 400 people have been involved in the above networks. Future activities of NSF in consolidating further networks include Middle East countries, China, Russia and India.

European Union from its side has consolidated the following networks:

- EU-USA
- EU-China

This trend is growing and would expand to cover many other areas of research.

### **Global Research Alliance**

Taking advantage of the new communication technologies and globalization, a number of public funded research institutions are joining hands to address development issues. One such grouping known as “Global

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Research Alliance (GRA)” ([www.research-alliance.net](http://www.research-alliance.net)) recently launched is committed to supporting the Millennium Development Goals, as agreed at the Johannesburg Summit on Sustainable Development in 2002. These goals are, namely

- Reduce by half the proportion of people living on less than \$1 a day and suffering from hunger;
- Ensure that all children complete a full course of primary schooling;
- Eliminate gender disparity in primary and secondary education by 2005, and at all levels by 2015;
- Reduce by two-thirds the mortality rate among children under five;
- Reduce by three-quarters the maternal mortality rate;
- Halt and reverse the spread of HIV/AIDS, malaria and other diseases;
- Integrate the principles of sustainable development, reverse loss of environmental resources, reduce by half the proportion of people without sustainable access to safe drinking water, and achieve significant improvements in the lives of at least 100 million slum dwellers; and
- Develop a global partnership for development.

The Alliance has a combined strength of more than 50,000 scientists and technologists to support these principles and is shared by CSIR-South Africa (GRA Nerve Centre), CSIR-India, Technical Research Centre of Finland (VTT), Australian Commonwealth Scientific and Industrial Research Organization (CSIRO), Netherlands Organization for Applied Scientific Research (TNO), Fraunhofer-Gesellschaft - Germany, Danish Technological Institute (DTI), Battele, USA and SIRIM Berhad-Malaysia each of which champion one of the key themes of GRA, viz., Energy, Digital Divide, Biotechnology, Poverty Alleviation, Globalization, Food Security, Transport and Infrastructure.

One of the most challenging tasks, GRA has taken up is to examine how nanotechnology can help address the issues facing the world’s water supplies. It believes that nanotechnology, while providing only a few radical new technologies for desalination, purification or waste water recovery, does have the ability to tilt the economic balance of many existing water related technologies in favour of large scale use.

### **Analytical Perspectives of Internationalization of Science**

With a phenomenal growth in international cooperation in science and technology, a range of analytical perspectives

to gauge the intensity, nature and scope of these collaborations have also been evolved. These are ranging from studying the trends of co-authored publications, co-authored patents, percentages and databases of alliances and networks. There is also growing international collaboration between various academic groups in carrying out these studies, e.g. COLLNET with headquarters in Berlin seeking association of groups from a dozen countries including India and China.

From these studies,<sup>6</sup> it is reported that the number of co-authored publications is growing steadily worldwide, rising from 7.8 per cent in 1986-88 to 14.8 per cent in 1995-97. India’s share in internationally collaborated papers is also growing, rising from 6.87 per cent in 1990 to 17.62 per cent in 1998. This is largely due to the role of international cooperation, which helps in capability, development and access to new knowledge in science and technology. According to these studies, the list of countries with which India collaborates is also expanding. India was a collaborating partner with 87 countries in co-authored publications in 1986-88 and this figure rose to 109 in 1995-97 in the field of science and technology.

On inter-firm alliance, the focus of management scientists has also shifted to the global orientation and linkages of the firms from the earlier focus of individual firm and its structure in terms of innovation and its competitiveness.

### **International R&D Alliance in Industry**

The growth of collaborative activity in industry as against the majority control through equity is greatly influenced by the process of globalization.<sup>7</sup> Globalization has effected the need of the firms to collaborate, and these firms now seek opportunities to cooperate, rather than identify situations where they can achieve majority control. The use of collaboration is particularly acute in capital-intensive and knowledge-intensive sectors and where consumption patterns are increasingly homogenous across countries. These are sectors where firms have quickly expanded internationally and therefore, they are not able to compete in various markets simultaneously. They have undertaken these measures also to exploit and acquire assets and technology that may be specific to particular locations.

The new phenomenon of strategic alliances for R&D has also been termed as “alliance capitalism” by many authors meaning thereby, that the flexible economic arrangements find increasing favour, shifting away from the older paradigm of hierarchical capitalism.<sup>8</sup> What is particularly unique about the “age of alliance capitalism”

is its widespread use by firms of all sizes and nationalities, and its use in a growing variety of activities which have hitherto been centralized and internalized such as R&D.

While alliances are proliferating in a range of economic activities of the firms such as for supply, marketing, outsourcing, etc., we would, however, limit our subsequent discussion to strategic technology alliances where innovative and overt R&D is the primary goal of the agreement.

### Information Sources on Inter-Firm R&D Partnerships

It must be admitted that authentic information on trends of R&D Alliances is not yet available from any official source. Many academic and commercial groups have, however, taken their own initiatives to collect data from various sources such as newspaper and journal articles, books dealing with the subject, company annual reports, etc. One of the well known sources for trends and patterns in inter-firm R&D partnerships during 1960-98 is the MERIT-CATI database of John Hagedoorn<sup>9</sup> of Maastricht Economic Research Institute on Innovation and Technology of the Netherlands.

In the CATI database, only those inter-firm agreements are being collected that contain some arrangements for transferring technology or joint research. Information is also collected on joint ventures in which new technology is received from at least one of the partners or joint ventures having some R&D programme. Mere production or marketing joint ventures have been excluded. In other words, the content of this database is primarily related to R&D collaboration and technology cooperation, i.e. those agreements for which a combined innovative activity or an exchange of technology is at least part of the agreement.

An important searchable database of 13,000 R&D alliances in the field of biotechnology/pharmaceuticals is also available with "Recombinant Capital" at their website ([www.recap.com](http://www.recap.com)). We would, however, restrict our discussion in the subsequent paragraphs based on the trends as available from MERIT-CATI database.

### Growth of Alliance Activity

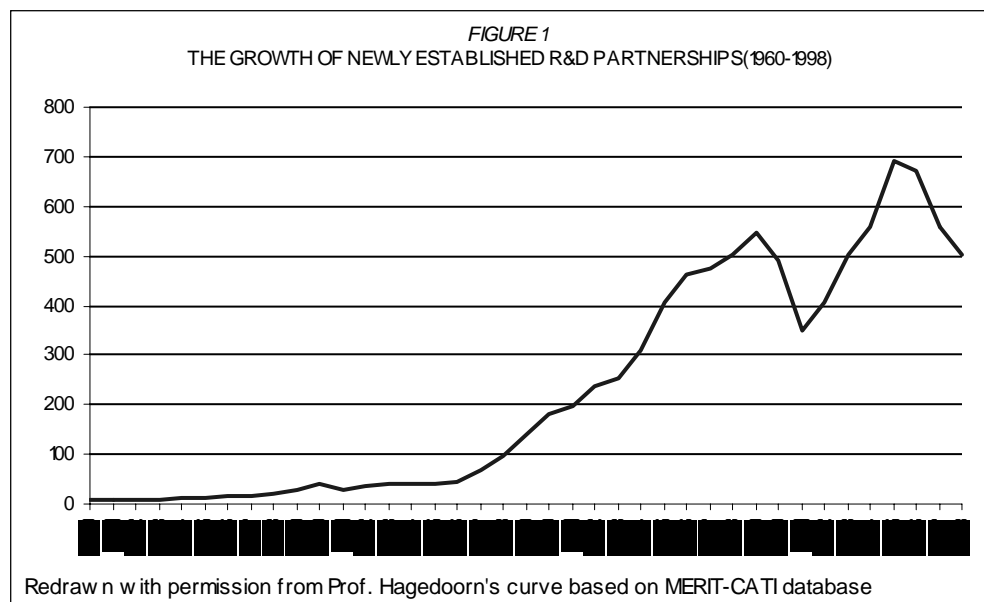
The R&D Alliances being referred here did register minor growth in the 1960s and 1970s but the actual growth became exponential since 1980s as depicted in Figure 1.

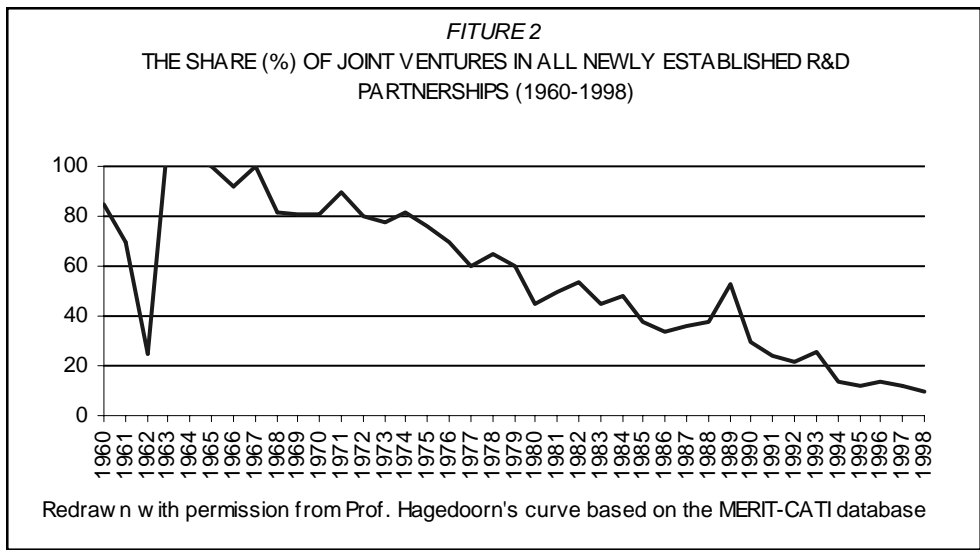
Several reasons have been attributed for the growth in popularity of cooperative agreements that embody strategic R&D elements. One explanation is based on the increased competition due to liberalization of markets and the globalized nature of the operations of firms. Further, the emergence of new technological sectors such as biotechnology and the growing technological convergence between sectors, such computers and telecom or new materials and energy, etc. have also played an important role. The cross-fertilization of technological areas has meant that firms need to have increasing range of competencies. This encourages the use of alliances to seek complementary assets.

It is interesting to note that the share of joint ventures in all newly established partnerships in the above database has continuously dropped, as shown in Figure 2 meaning thereby significant reliance on "R&D alliances" during the period under study.

It has been reported from this database that the propensity of R&D partnerships is more pronounced by the firms engaged in high-tech areas, as compared to those engaged in medium/low-tech areas. It has also been reported that there is a significant share of international partnerships (~ 60%) in the newly recorded R&D partnerships in this database during 1960-98.

It may be anticipated that successful international R&D alliance should result in increased business. However,





**Enhancing Alliance Performance**

Despite tremendous growth in R&D and other alliances, the failure rate (>40%) is stated to be very high. There are many reasons for failure, which could have been avoided, in the first instance. The five most important reasons for strategic alliance failure are (i) lack of trust, (ii) mismatch of partner's culture, (iii) operational problems, (iv) inability of partner to deliver

since there is continuous growth both in international business and their international R&D alliances, it may not be easy to assess the former's growth entirely due to the latter. An interesting and related study<sup>10</sup> has been reported on the relationship between "internationalization of R&D" and "internationalization of sales" based on 81 technology-intensive multinational companies which shows a strong correlation between the two. We can therefore also expect a strong correlation between "international R&D alliance" and "internationalization of sales".

It is also interesting to see the distribution of R&D partnerships through various economic regions. Table 3 presents such a distribution based on the data from MERIT-CATI database. As already stated in this paper, this table clearly shows that the European firms are getting more internationalized in their overseas R&D as compared to US firms who in turn are more globalized than Asian and Japanese firms. In absolute terms, however, all regions are experiencing growth with regard to overseas R&D by their firms.

expected competencies, and (v) mis-match of partner's strategy.<sup>11</sup>

**Conclusion**

In the globalized world economy, it is inevitable for businesses to maintain an appropriate strategic R&D partnership portfolio to remain innovative and competitive. The growth of international strategic alliance in R&D in the recent decades has been favourable to science and technological firms. It has helped the firms to access foreign technologies and markets, as well as minimize risks and rapidly recover the high costs of technological development.

It may be advisable for smaller companies without adequate capital and technological resources to establish viable linkages with research groups in public funded institutions having sizeable global partnerships. In the present environment of increased internationalization of science and technology, it is imperative for all businesses to link with the global innovation chain to sustain international competitiveness.

**TABLE 3**  
DISTRIBUTION OF R&D PARTNERSHIPS VIDE ECONOMIC REGIONS

Region	Per cent share in different periods			
	1960-69	1970-79	1980-89	1990-98
Intra-North America	17.1	19.3	23.5	41.4
Intra-Europe	38.5	26.8	19.0	11.3
Intra-Asia	6.0	6.4	7.6	2.5
North America-Europe	16.2	18.5	21.6	25.2
North America-Asia	13.7	15.6	13.3	9.0
Europe-Asia	5.1	8.0	6.7	3.9
Others	3.4	5.6	8.3	6.8

Source: Based on MERIT-CATI database.

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## KALEIDOSCOPE OF INDIA'S TECHNOLOGY EXPORT EFFORTS

### Dodsal Bags 3 Contracts in Sudan

The Dubai-based Indian company, Dodsal Group has won three contracts totalling \$230 million in Sudan, covering a wide range of areas, viz. engineering, procurement and construction (EPC) activities in the oil field sector. The contracts include a 741-km multipurpose pipeline system from Khartoum to Port Sudan for India's Oil and Natural Gas Corporation (ONGC), the Adar/Agordeed (31,000-barrels-per-day) field production facilities for Petrodar Operating Company and a 280 km of their crude oil export pipeline leading to Port Sudan. All the three projects are due for completion on a fast track. The new contract in Sudan will bring Dodsal's orders to \$500 million and may exceed \$1 billion by early 2005. Dodsal achieved first delivery of gas in March 2004 for a 10-month schedule on the 155 million-M3/day Northern Oman Gas facilities awarded to them by Occidental on a turnkey EPC and commissioning basis.

The company has also completed the entire mechanical and piping work on the 5.2 million tonnes per year LNG project, at Damietta, Egypt, along with Kellogg-Brown & Root/Japan Gasoline/Technicas Reunidas joint venture. The project was carried out by 90 per cent Egyptian national workers.

In the UAE, Dodsal completed earlier this year, two gas pipeline projects, namely Dolphin 24 inch Al Ain Fujairah and Gasco 32 inch Shuweihat.

The company has just begun work on the ADCO Buhasa facilities development project with Sanprogetti on the civil, mechanical, electrical and instrumentation. Dodsal has been working in six countries in West Asia, Africa, India and South East Asia since the last 35 years. ■

### Hinduja-Led Consortia Bags Iran Projects

Hinduja led consortium have bagged two projects in Iran worth \$600 million. One of the projects is for developing and constructing a port at Chabahar which will cost \$100 million.

The members of the consortium include Ashok Leyland Project Services Ltd, L&T, RITES and National Institute of Ocean Technology (NIOT).

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The other project is for building a railway line between the Chabahar port and Bam, in South-East Iran, costing around \$500 million. Partnering the Hindujas in this consortium are RITES and IRCON, both undertakings of the Government of India.

Chabahar is a strategic port located on the Oman sea. The two projects, as much, are expected to enhance the logistics capability of Iran. ■

## **KEC Intl Bags Rs 365-cr Order in Abu Dhabi**

KEC International Ltd (KEC) has been awarded a new order worth Rs 365 crore (US\$78 million) in Abu Dhabi, by the Abu Dhabi Water and Electricity Authority (ADWEA). This is one of the largest orders awarded by ADWEA. The order includes supply and installation of approximately 145-km-long 400KV double circuit Overhead Lines from Shuweihat to Madinat Zayed and 54-km-long 220KV double circuit Overhead Lines.

The ADWEA Project has to be executed within 22 months. The company is having its presence in Abu Dhabi since the last 10 years and has already executed orders worth more than Rs 1,100 crore (US\$234 million) for ADWEA and currently, orders aggregating to Rs 285 crore (US\$61 million) are under execution. KEC's long standing experience and skills in the Middle East market have helped it bag this large order from the Abu Dhabi authorities. This helps the company in maintaining its leadership position in the Global Transmission market.

The company's present order book position stands at Rs 2,300 crore (US\$489 million). KEC has also improved its position in the domestic market with contracts worth Rs 700 crore in its order book. ■

## **BHEL Bags Rs 80-cr Order from Oman**

Bharat Heavy Electricals Ltd has bagged a Rs 80-crore export order from Petroleum Development Oman.

The power equipment major would supply a gas compressor package to be set up at Lekhwair, 450 km from Muscat.

The package, to be delivered by October 2005, would be manufactured and supplied by BHEL's Hyderabad plant. This is the third order which PDO has placed on BHEL. ■

## **Bhopal Company Bags \$15mn Iranian Technology Contract**

The Bhopal-based HEG Ltd, the leading graphite electrode manufacturer, has bagged a \$15 million contract from Iran's largest steel company to provide technical assistance in setting up an electrode plant there.

The company has won the contract as part of an international consortium to supply technical know-how to the National Iranian Steel Company (NISCO) following a global tender.

A premier company of the LNJ Bhilwara group, HEG is located in the Mandideep industrial area of Madhya Pradesh. With this contract, the company is poised to become a major global player.

The other four participants in the consortium are Iritec (Iran), which will build the plant, Irasco (Italy), which will be responsible for project financing and equipment purchase and procurement, Itok (Iran) and SCS (Germany), a sub-consultant appointed by Itok.

According to the agreement (the tender for the project was floated in July 2003), a consideration of \$15 million would be payable to HEG over the four-year period till the new plant is commissioned.

The new plant, being set up at Ardakan in the Yazd province of Iran at an estimated cost of Rs 1,100 crore, will have a capacity of 30,000 million tonnes a year.

The company would make a fresh investment of Rs 500 crore in Madhya Pradesh to increase the capacity of its Mandideep plant from 30,000 million tonnes to 60,000 million tonnes a year.

The company will also set up a 30 MW captive power plant in its premises.

The capacity increase will be done in two phases. In the first phase, the capacity will be increased to 52,000 million tonnes. The captive power plant will be set up at an investment of Rs 98 crore. ■

## **ISRO Bags Italian Launch Contract**

ISRO has won a \$10-million contract to launch a mid-sized Italian scientific satellite towards the end of 2005.

Although ISRO has provided commercial launches for four small 100-kg satellites since May 1999, the upcoming contract for the 600-kg "Agile" satellite puts ISRO a step ahead in the small launch services market hogged by Europe and the US.

ISRO will fly it on its workhorse rocket, the PSLV, from the Sriharikota launchpad. The launch into a 600-



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km low earth orbit would be using only half the capacity of the 1.3-tonne PSLV rocket and hence ISRO would make some modification and fly it without the six strap-on boosters.

In the 1.5-billion global market, the Indian launch service is competitively priced and the real commercial clincher, would be when the national space agency won a contract for a full-capacity (1.3-tonne class) satellite.

ISRO's commercial launches so far include Korean Kitsat-3 and German DLR-TUBSAT in May 1999 and German BIRD and Belgian Proba satellites in 2001. A small Singapore satellite has been contracted for launch later this year. The agency also has a joint marketing agreement with the lead launch provider, Arianespace of Europe, for the PSLV but that is yet to materialise. The next domestic version, the GSLV with a capability to lift up to two-tonne satellites, has also reached the marketplace after two successive demonstrations.

Each launch of its communication satellites, the Insats, on such rockets typically costs ISRO around Rs 400 crore (at the rate of Rs 15 to 20 crore a kg of satellite). ■

## **PSL Bags \$198mn Sudanese Order**

PSL Ltd. has bagged an order worth \$198 million from Sudanese oil & gas company, Petrodar, for the Melut Basin Oil Development Project in Sudan.

The company said the \$198 million contract, ranked as one of the biggest single supply orders received by an Indian company in recent times, is for supply of oil and gas pipes in the next 10 months. The Melut Basin Oil Development Project received bids from 14 bidders from Brazil, Malaysia, China along with European big companies like Corinth Pipe of Greece and Mannesman from Germany amongst others. ■

## **L&T Wins Export Orders from UAE and China**

Larsen & Toubro Ltd. has won a \$52.5 mn. contract from Bunduq Company Ltd. of UAE for process platform in an oil field in the Gulf. L&T will engineer, procure, construct and install the platform in the EL Bunduq field near the boundary between the UAE and the Qatar. The platform with facilities for compressing and injecting gas, will be completed in 18 months. Another export order which the L&T has won relates to supply of coal gasification equipment to a project in Henan province in China for Rs 95 crore (\$19 million).

The project would be executed by L&T's Heavy Engineering Division for Zhong Yuan project. ■

## **Welspun Gujarat Bags Rs 407 cr Libyan Order**

Submerged arc-welded saw pipes manufacturer, Welspun Gujarat Stahl Rohren, has bagged an export order worth Rs 407 crore for supplying pipes to the El Sharara-Mellitah onshore pipeline in Libya.

The company is the leading manufacturer of saw pipes using the most modern and sophisticated pipe technology having its plant in Vadodhra (Gujarat). It is manufacturing a wide range of products which include steel, cotton, yarn, terry towels and synthetic fibres.

The company had exported its goods to the tune of Rs 380 crore in 2003-04. It has chalked out its plans to "scale up" its export performance further. In India, it recently bagged an order amounting Rs 136 crore from ONGC. The company will supply 400 km long 30-inch pipes with a thickness of 14.30 mm and 10.30 mm respectively by January 2005. ■

## **BHEL Bags Order to Export Insulators to UK**

Engineering major Bharat Heavy Electricals Ltd. has bagged a Rs 2-crore export order for supplying disc insulators to UK-based Tyco Electronics.

According to the order valued at Rs 2 crore, BHEL would supply 14,280 porcelain disc insulators of up to 300 KN rating to Tyco Electronics for use on the transmission lines of UK's National Grid Transco.

Developed by the company to cater to the demand in the UK and Scotland, the insulators have been approved for use on NGT's transmission lines. The order was only placed after successful type testing and vendor approval from NGT.

BHEL has become the first Indian company capable of offering indigenously developed porcelain disc insulators of up to 300 KN rating for application in high voltage transmission systems .

This is the second such order from Tyco which had earlier used BHEL's disc insulators for the Northern Ireland-Scotland inter connector transmission line.

It has established leadership in the high-tech area of porcelain technology for both HVDC as well as ultra high

voltage alternating current applications. The company has also developed 400 KN disc insulators for future market requirement. ■

## HAL Bags Airbus Deal to Make Aircraft Doors

Public sector Hindustan Aeronautics Ltd. (HAL) has bagged a Rs 380 crore export contract from aircraft manufacturer Airbus Industrie for supplying 1,000 doors for its planes.

The contract, the biggest from an international company for HAL, envisages supply of 1,000 ship sets of forward passenger doors for A-319s, A-320s and A-321s of the Airbus aircraft family.

The deal was signed at the company headquarters in the French city of Toulouse recently by the HAL and Airbus Industrie.

HAL plans to increase its production volume to meet the required delivery schedules.

The public sector firm has already been exporting work packages for civilian aircraft of Airbus Industrie and Boeing of the US and its performance has been credited with “no rejection” and “no delay” by foreign firms. ■

## Department of Scientific and Industrial Research

### PROJECT PROPOSALS INVITED FOR SUPPORT UNDER TECHNOLOGY PROMOTION DEVELOPMENT AND UTILIZATION PROGRAMME

(For details visit website: [dsir.nic.in/dsir.gov.in](http://dsir.nic.in/dsir.gov.in))

Project Proposals may be sent to:

Department of Scientific &  
Industrial Research  
Technology Bhawan,  
New Mehrauli Road  
New Delhi-110016

Fax: 91-11-26960629

E-mail: [svr@alpha.nic.in](mailto:svr@alpha.nic.in)/[ashwani@alpha.nic.in](mailto:ashwani@alpha.nic.in)

## JOINT VENTURES/ ACQUISITIONS/ SUBSIDIARIES

### Himalaya Drug Plans Mexico Base

Himalaya Drug Company is setting up a manufacturing base in Mexico to tap the lucrative North and South American market. The production is likely to start from the third quarter of 2004. The company has tied up with a Mexican company which will roll out Himalaya branded products.

Himalaya, the Rs 350-crore Bangalore-based company, has four strategic business units - pharmaceuticals, consumer health, personal care and animal health. The Mexican company would start manufacturing pharmaceutical products. Later, it would roll out products from all other segments.

Himalaya's engagement with the Mexican outfit would be limited to technology transfer. Thus the investment would not be substantial

The move is likely to offer a significant rise in revenue as acceptance of herbal medicine and soft therapeutic products is growing in the West with doctors prescribing them along with allopathic medicine. ■

### TATA Power in Pact with Saudi Co.

TATA Power Company Ltd. (TPC) said it has signed an agreement with the National Power Company, Saudi Arabia, to jointly set up a 100 MW co-generation power plant in the industrial city of Jubail to supply power and steam to Sahara Petrochemicals Company. The Saudi company Sahara Petrochemicals is setting up a propane dehydrogenation and polypropylene project in the Gulf kingdom. ■

### Vectra to Set Up JV in Abu Dhabi

This is another first for the Indian automotive industry. The UK-based, NRI-promoted Vectra group has joined hands with Bangalore's Azad Body Builders and the UAE's Bin Jabr group to set up a tri-party joint venture in Abu Dhabi for locally building buses for the Gulf market.

The JV agreement has already been inked and the venture – Intercontinental Industries – expects to commence operations by the end of 2004.

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The JV will build luxury, commuter and mini school buses for the region. This is the first Indian automobile JV to be established in the Gulf. Indian companies are exporting fully-built buses to Abu Dhabi. The company is planning to source the chassis for these buses from any of the existing Indian firms like Ashok Leyland and Eicher, and build bus bodies on these basic skeletons. ■

## **Jubilant Acquires 2 Belgian Companies for •13.5 mn**

Jubilant Organosys has acquired two Belgium-based pharmaceutical companies in an all cash deal of Rs 75 crore. Jubilant has floated a wholly-owned subsidiary in Belgium under Jubilant Pharma NV, which has acquired 80 per cent stake each in Pharmaceutical Services Incorporated NV and PSI Supply NV.

The remaining 20 per cent remains with the founder Lieve Vermassen, who will continue as the ECEO and Managing Director of the two entities. However the structure of the board of the companies have changed post acquisition.

The •13.5 million deal is being funded through foreign currency convertible bond (FCCB) transaction.

PSI is into regulatory affairs services, dossier development, formulation development and supply of finished dosage form. It has a portfolio of 19 dossiers with three more to be filed shortly and 28 dossiers under the preparation stage.

The PSI has entered into a long-term supply contracts for the dossiers for generic products and has arranged the market authorization for its customers in Europe.

It recorded sales of •9.6 million (approx. Rs 53 cr) for the year ended 31 March 2004, with EBITDA expected to be •2.8 million (approx. Rs 15.6 cr).

This acquisition will enable Jubilant to leverage PSI's extensive knowledge of the European regulatory environment and strengthen its foothold in the region. ■

## **IOC to Set Up Refinery in Nigeria**

Indian Oil Corpn., the country's largest oil firm, will set up its first overseas oil refinery in Nigeria as part of its drive to expand globally.

IOC has been invited by the Edo State of Nigeria to set up a grassroot (new) refinery. The company IOC, which has also bid for revamping the existing refineries

in Nigeria, wants to enter into auto fuel retailing business too.

Oil-rich Nigeria has four refineries with a total capacity of 445,000 barrels per day (22.5 million tonnes) but output of petroleum products is restricted to just 25 per cent of the capacity as the machines are old.

The West African nation has a total demand for 257,000 barrel per day (12.9 million tonnes) of petroleum products and the new refinery is proposed to feed Edo, one of Nigeria's largest oil consuming states. ■

## **Lupin to Set up Australian Arm**

Lupin has decided to set up a wholly-owned subsidiary in Australia with a \$2 million investment over a period of two years.

The subsidiary, to be called Lupin Australia (Pty) Ltd., will help the firm market its branded generics and tap business opportunities in that country.

Growing at a rate of 7 per cent and valued at approximately \$3.8 billion during the year 2003, the Australian market is pegged as the 14th largest pharmaceutical market in the world. The Australian laws, however, require a local entity to hold product registration.

Since the new entity will need to hold stocks and invoice several pharmacies and distributors (which will not be feasible on an ex-India basis), Lupin has decided to establish a subsidiary there to act as a vehicle for marketing the company's products. ■

## **Jindal Stainless Buys Indonesian Plant for \$32m**

To gain a strong footing in the South Asian market, Jindal Stainless has bought a 50,000 tonne stainless steel cold rolling plant in Indonesia in a \$32 million deal on an asset acquisition basis.

The new entity would be a 100 per cent subsidiary of Jindal Stainless and will be called PT Jindal Stainless, Indonesia. The company has signed a Memorandum of Understanding (MoU) with PT Maspion Stainless Steel and the deal will be completed shortly.

Jindal Stainless aims to increase the capacity of the cold rolling plant by 100,000 tonne by the end of this fiscal year with an additional investment of \$12 million. The total cost may run up to \$50 million including an additional working capital of \$6 million. ■

### Highlights of the Foreign Trade Policy (2004-2009)

1. The main objective of the Foreign Trade Policy is two-fold: (i) to double India's percentage share of global merchandise trade by 2009; and (ii) to act as an effective instrument of economic growth by giving a thrust to employment generation, especially in semi-urban and rural areas.

2. In a major relief to exporters, the policy does away with the service tax on exports while seeking to give a push to employment generation by outlining a special package for agricultural exports.

3. Sectors with significant export prospects coupled with potential for employment generation in semi-urban and rural areas have been identified as thrust sectors. These include: Agriculture, Handicrafts, Handlooms, Gems & Jewellery and Leather & Footwear.

4. A new scheme called Vishesh Krishi Upaj Yojana has been introduced to boost exports of fruits, vegetables, flowers, minor forest produce and their value added products.

5. Duty free import of consumables for metals other than gold and platinum allowed up to 2 per cent of FOB value of exports. Duty free re-import entitlement for reject jewellery allowed up to 2 per cent of FOB value of exports. Duty free import of commercial samples of jewellery increased to Rs 1 lakh. Import of gold of 18 carat and above shall be allowed under the replenishment scheme.

6. Duty free import of trimmings and embellishments for Handlooms & Handicrafts Sectors increased to 5 per cent of FOB value of exports. Import of trimmings and embellishments and samples shall be exempt from CVD. Export Promotion Council for Handicrafts has been authorised to import trimmings, embellishments and samples for small manufacturers. A new Handicraft Special Economic Zone shall be established.

7. Duty free entitlements of import trimmings, embellishments and footwear components for leather industry increased to 3 per cent of FOB value of exports. Duty on import of specified items for leather sector increased to 5 per cent of FOB value of exports. Machinery and equipment for Effluent Treatment Plants for leather industry shall be exempt from Customs Duty.

8. A new scheme to accelerate growth of exports called 'Target Plus' has been introduced. Details are as follows:

- (i) Exporters who have achieved a quantum growth in exports would be entitled to duty free credit based on incremental exports substantially higher than the general actual export target fixed. For incremental growth of over 20 per cent, 10 per cent and 15 per cent of FOB value of incremental exports, special awards will be given.
- (ii) Technological upgradation under EPCG scheme has been facilitated. Transfer of capital goods to group companies and managed hotels are now permitted under EPCG. In case of movable capital goods in the service sector, the requirement of installation certificate from Central Excise has been done away with.
- (iii) Import of fuel under DFRC entitlement shall be allowed to be transferred to marketing agencies authorized by the Ministry of Petroleum and Natural Gas.
- (iv) The DEPB scheme would be continued until replaced by a new scheme to be drawn up in consultation with exporters.

9. A new rationalized scheme of categorization of status holders as Star Export Houses has been introduced as under:

Category	Total performance over three years (Rs crore)
One Star Export House	15
Two Star Export House	100
Three Star Export House	500
Four Star Export House	1,500
Five Star Export House	5,000

The categorization is expected to help exports from SSI sector.

10. Import of second-hand capital goods shall be permitted without any age restriction. Minimum depreciated value for plant and machinery to be relocated into India has been reduced from Rs 50 crore to Rs 25 crore.

11. In a move to catapult India as a major global services hub, the Government's new Foreign Trade Policy proposes to create a "served from India" brand, an export promotion council for services sector and schemes to promote homegrown service providers.

Indian industry and trade expects the new policy to braodbase services export from the country which is predominantly software services exports at present. ■

Discover IMD's International Competitiveness - Executive Education at IMD Business School - International Competitiveness. International competitiveness can be defined as a process in which higher levels of competitiveness are achieved at different levels, that is, at firm, regional and national levels. As such, competitiveness becomes international when it pertains to two or more countries. Buckley et al (1988) develop a general perspective about the strategic choices that underline international competitiveness and thus argue that competitiveness includes "efficiency (reaching goals at the lowest possible cost) and effectiveness (having the right goals). It is this choice of industrial goals which is crucial. Abstract. Strategic alliance is an agreement between two or more organizations to cooperate in a specific business activity, so that each benefits from the strengths of the other, and gains competitive advantage. The formation of strategic alliances has been seen as a response to globalization and increasing uncertainty and complexity in the business environment. Strategic alliances involve the sharing of knowledge and expertise between partners as well as the reduction of risk and costs in areas such as relationships with suppliers and the development of new products and technologies. Competitiveness at the national level is based on superior productivity performance and the economy's ability to shift output to high productivity activities which in turn can generate high levels of real wages. Competitiveness is associated with rising living standards, expanding employment opportunities, and the ability of a nation to maintain its international obligations. It is not just a measure of the nation's ability to sell abroad, and to maintain a trade equilibrium." The Report of the President's Commission on Competitiveness (1984). R&D expenditure. Increasing returns from accumulation of. Innovativeness (patents). Secondly, the strengthening of TNCs' economic position vis-à-vis nation-states will certainly continue. But note that frequent comparisons of the countries' GDP with TNC sales are inappropriate because in former case it goes about the produced added value and in the latter " about gross revenues including the feedstock and intermediate product expenses. This setting presents the worst nightmares both for antiglobalists and advocates of customary international relations based on domination of nation-states in making globally significant decisions. According to this scenario, economically stronger TNCs acquire more political clout to successively seize the regulation functions formerly belonging to states and international government organizations.