



HIGH TECH INDICATORS: WHO'S GAINING?¹

Alan L. Porter, J. David Roessner, Nils C. Newman, Xiao-Yin Jin, Alisa Kongthon*

Introduction

WORLDWIDE attention to technological innovativeness and importance of indicators of competitiveness has increased dramatically. This is especially prevalent in Europe, with the development of the Innovation Scoreboard, the Entrepreneurship Scoreboard, and so forth [<http://www.cordis.lu/innovation-smes/scoreboard/home.html>]. However, the prominent European and OECD indicators do not cover the industrialising countries. Sources that do cover industrialising nations include:

- The World Bank's *World Development Report* [<http://econ.worldbank.org/wdr/wdr2003/>]
- The *World Competitiveness Yearbook* [<http://www01.imd.ch/wcy/>].
- The World Economic Forum's *Global Competitiveness Report* [<http://www.weforum.org/site/homepublic.nsf/Content/Global+Competitiveness+Programme>]
- The UN Commission on Science and Technology for Development (CSTD) and the UN Conference on Trade and Development (UNCTAD) reach out farther in seeking to devise technological competitiveness and information & communications technology (ICT) indicators for most countries [<http://r0.unctad.org/stdev>].

This paper focuses on the export competitiveness indicators developed by the Georgia Tech Technology Policy and Assessment Center (TPAC). We have been producing "High Tech Indicators" (HTI) since 1987. Beginning in 1990, and continuing in 1993, 1996, 1999, and 2003, HTI has been supported by the US National

Science Foundation and reported in *Science & Engineering Indicators* [www.nsf.gov/sbe/srs/seind02]. HTI is based on a model that identifies four "input" factors as anticipating future national high-tech based export capabilities, gauged by three "output" factors.² Three key advantages of HTI over other indicators are its conceptual basis, coverage of rapidly industrialising economies, and the available time series.

The HTI series is attaining sufficient maturity to enhance its value in drawing comparisons across countries, regions (e.g., Southeast Asia, Latin America, Eastern Europe), and time (e.g., sharp upsurge seen for China recently). HTI currently tracks changes in export competitiveness for 33 nations. It was developed particularly to gauge future technology-based competitiveness of the industrialising countries. Recent HTI results have been described in several publications.^{3,4,5} Interest in the HTI indicators has risen over the years, reaching into the analytical, popular, and policy communities, with significant international recognition.

These are the countries HTI tracks:

- The "Big Three" – USA, Japan, and Germany
- Western Europe (UK, France, Netherlands, Italy, Switzerland, Sweden, Spain, and Ireland)
- English Heritage Nations plus Israel (Canada, Australia, South Africa, New Zealand, and Israel)
- Eastern Europe (Russia, Poland, Hungary, and Czech Republic)
- Asian Tigers (Singapore, South Korea, and Taiwan)
- Asian "Cubs" (Malaysia, China, Thailand, Indonesia, Philippines, and India)
- Latin America (Mexico, Brazil, Argentina, and Venezuela).

Many of these countries have shown keen interest because they achieved tremendous advantage in technological competitiveness.

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The HTI Model

HTI combines statistical measures, compiled from a number of sources, with expert opinion gathered from our international indicators Panel. We combine these to compose “indicators” for the target input and output factors. The expert opinion items compensate for statistical gaps to cover essential components of the indicators. This expert opinion consists of judgments by persons knowledgeable about technology-intensive development in each country. Our 2003 HTI benefited from the responses of 371 experts. Recent HTI Summary reports, along with the survey instrument and an appendix that describes the components of our “Input” and “Output” indicators are available [<http://tpac.gatech.edu>].⁶

Our four input indicators consist of:

- **National Orientation (NO)** reflects “directed” action to achieve technological competitiveness.
- **Socioeconomic Infrastructure (SE)** – institutions that support and maintain the resources essential to the functioning of a modern, technology-based economy.
- **Technological Infrastructure (TI)** – institutions and resources that contribute to a nation’s capacity to develop, produce, and market new technology.
- **Productive Capacity (PC)** – the physical and human resources devoted to manufacturing products and the efficiency with which those resources are used.

The one output indicator we emphasise here is:

- **Technological Standing (TS)** – reflects current high technology product export performance

The referenced reports on HTI explore changes in these indicators over time. They also investigate the association of “input” factors (“drivers”) to “outputs” (technology-based products and services). Such relationships are not straightforward.⁷ We note that our HTI model postulates that our input factors portend changes in technology-based export competitiveness roughly 15 years later. Thus our data are just barely attaining sufficient duration to assess the HTI predictive powers. Early results suggest limited predictability, with TI and PC better predictors than NO and SE.⁸

The component measures that constitute each indicator are scaled from 0-100. These “S-scores” range from a minimum (zero or lowest scale value) to a relative maximum (100 = value of the highest of the 33 countries on that component). This enables reasonable combination of our expert opinion items (scaled initially from 1-5) together with our statistical measures that can differ in range by orders of magnitude. S-scores are also easily comprehended.

For certain purposes, we average the four input indicators to give a general “INPUT” indicator. That is what we report here in conjunction with our main output indicator, TS – Technological Standing. TS tends to mute somewhat the huge differences from the largest technology-based exporters (USA, Japan) to smaller economies. This reflects its incorporation of one expert opinion measure addressing current high tech production along with two statistical measures (concerning high tech exports and the value of electronics exports).

National High Tech Indicators Profiles

We concentrate on one revealing depiction of HTI results here. Figure 1 shows a scattergram of all of our countries for which we have data spanning the period 1993-2003.⁹ This plots:

- X-axis: the composite INPUT indicator values for 1993 and 2003
- Y-axis: TS – Technological Standing for 1993 and 2003

The axes range from 0 to 100, with the middle value, 50, used to create 4 quadrants. The values are connected by an arrow running from 1993 to 2003. This shows the direction of change. For instance, consider Japan and the USA. In 1993, they were very close to each other on both INPUT and TS, with Japan slightly ahead on both. A decade later, the USA has increased on both indicators, while Japan has declined on both.

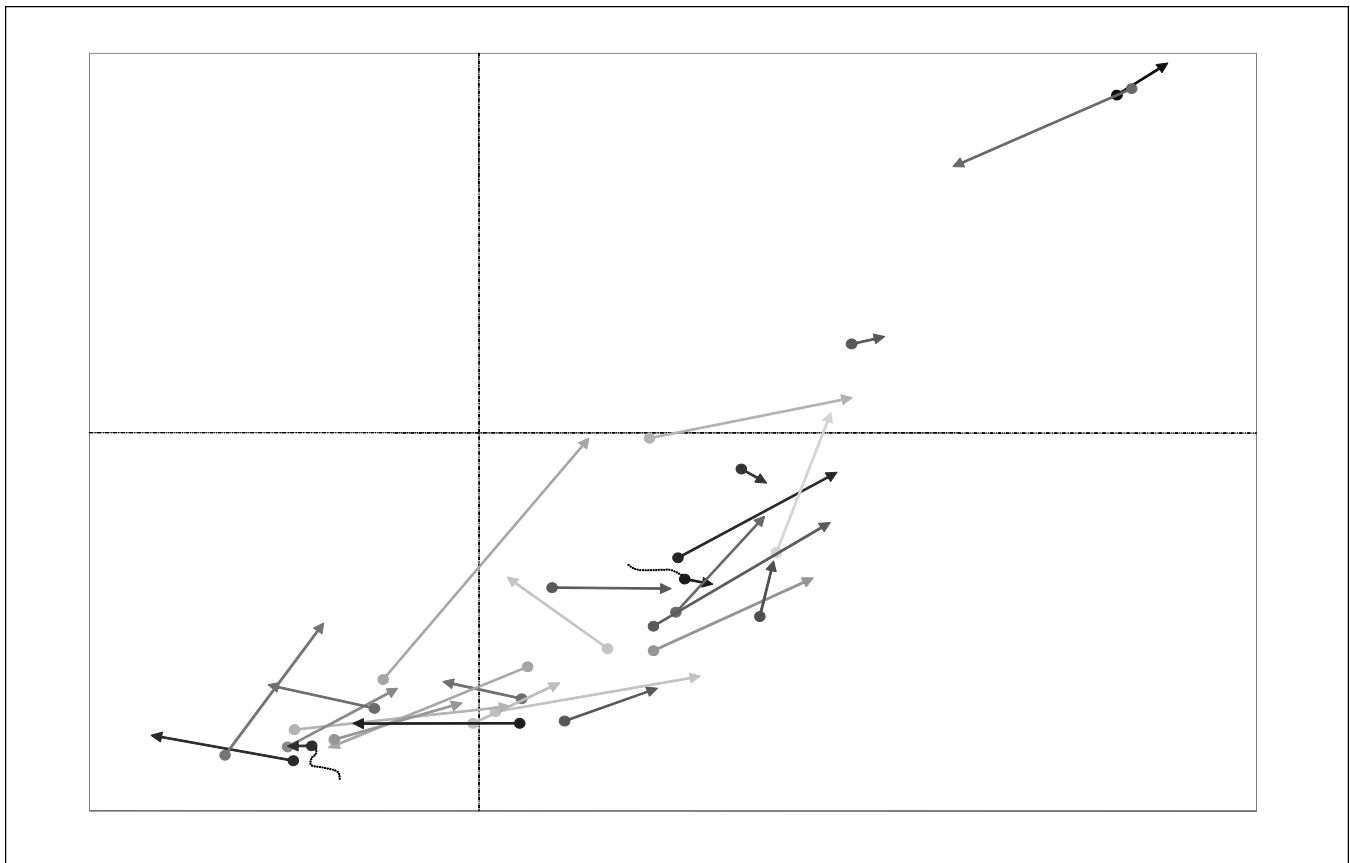
Note that these S-score-based measures are based on composite measures and they are relative. In other words, the decline in Japan's values DOES NOT mean an absolute decline in the underlying components for Japan, just a lower position relative to the leader on the measures. Japan's high tech and electronics exports actually increased

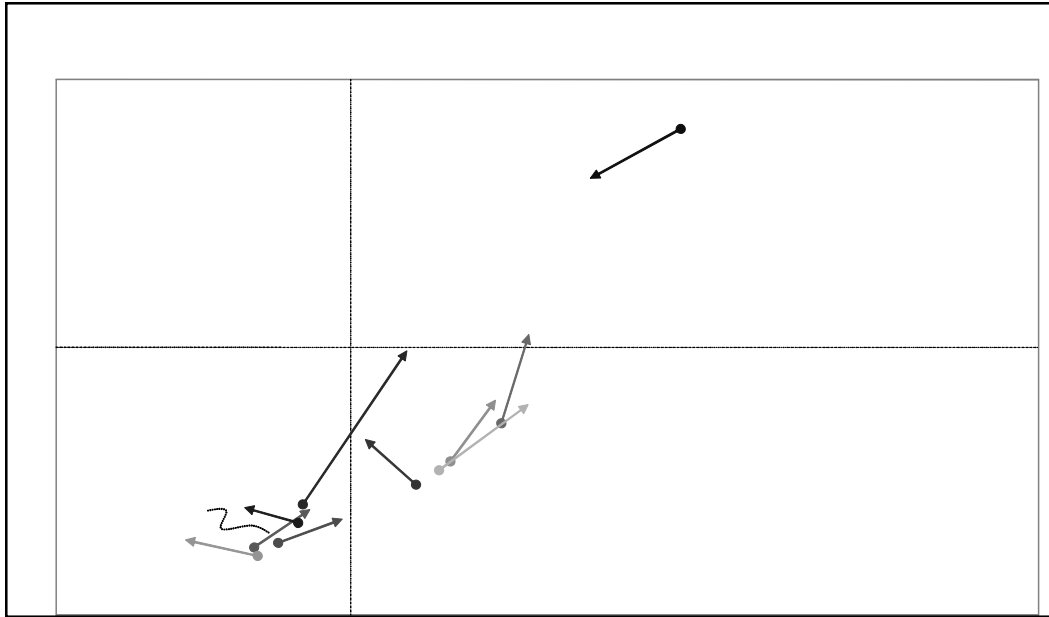
over this period, but not quite proportionately to the leader. Also recognise that our indicators are based on 33 highly competitive countries, so "weak" showing is again only relative. You may also note that not all highly developed countries appear. HTI does not include every OECD country because its primary focus is on the industrialising countries. Also, not all our 33 countries appear because some were added since 1993. We don't present precise scaling in the figures to emphasise patterns and changes, not precise values. Numerical indicator values are available at <http://tpac.gatech.edu>.

With these cautions in mind, the figures provide some fascinating results. Let's first consider our country groupings:

- *The "Big Three" – US, Japan, and Germany.* When HTI began, in the late 1980's, West Germany was closer to the USA and Japan, and more distant from the other countries. Since then, probably due considerably to the incorporation of East Germany, high tech export competitiveness has been more of a "Big Two." Nonetheless, for this recent decade, Germany shows progress on INPUT and a bit on TS ("Standing") as well.

FIGURE 1





do note that TS emphasises electronics, a particular strength of the Tigers, but nonetheless, all now recognise this shift in technology-based economic power toward Asia.

- *Asian “Cubs”* (Malaysia, China, Thailand, Indonesia, Philippines, and India). We discuss below.

- *Latin America* (Mexico, Brazil, Argentina, and

- *Western Europe* (UK, France, Netherlands, Italy, Switzerland, Sweden, Spain, and Ireland). Ireland is not included, having been added since 1993. (For a small nation, Ireland shows lively competitiveness – see //tpac.gatech.edu.) Of this group, note the nice gains by the UK and the Netherlands. Italy has increased on INPUT; we’ll see if this is reflected in eventual TS gains.
- *English Heritage Nations plus Israel* (Canada, Australia, South Africa, New Zealand, and Israel). Israel, another dynamic, small economy, was added since 1993, so is not shown. Canada, Australia, and New Zealand show strong advances on both INPUT and TS. South Africa shows the worst trajectory of all the countries plotted.
- *Eastern Europe* (Russia, Poland, Hungary, and Czech Republic). Hungary and the Czech Republic don’t appear as they were added after 1993. Russia and Poland show strong gains, particularly in INPUT.
- *Asian Tigers* (Singapore, South Korea, and Taiwan). The Tigers show tremendous economic strides. When HTI began, these were the “newly industrialising countries.” Compare their Standing in technology-based export competitiveness to the Western European countries. If you were looking to cluster similarly performing economies, you might lump together the UK, Singapore, France, the Netherlands, Taiwan, and South Korea. This would have been hard to imagine back in 1987! Note that the similarities extend to INPUT as well as TS. We

Venezuela). Venezuela was added since 1993. We discuss below.

Asia and Latin America

We provide two additional figures that leave out countries for clarity. Figure 2 shows our Asian countries. Country profiles are interesting.

- *Singapore*: a world high tech power. Note that HTI does not compensate for country size by using “per capita” or other normalisation. The only moderating influence in our indicators is that we include a number of simply scaled (1-5) expert opinion measures. So, Singapore’s ascent is simply amazing.
- *South Korea and Taiwan*: powerful technology export competitors.
- *Malaysia*: the “Asian Cub” most like a Tiger since the inception of HTI; indeed Malaysia is a major high tech player (compare their Standing in Figure 1 to Italy and Canada). The decline in their INPUT score from 1993 to 2003 raises a “red flag” of warning to suggest possible review by its policy-makers. Looking at our discrete Input indicators, Malaysia has dipped modestly on NO, TI, and PC. Again, this does not necessarily indicate that problems exist, nor explain what policy actions would bolster future high tech competitiveness, but it suggests deeper analyses might be worthwhile.
- *Thailand and Indonesia*: Both have increased their Standing since 1993, but both show large decline in INPUT. Again, technology policy-makers might

want to explore the situation to see if the indicators are picking up real concerns for future technological development.

- *The Philippines:* Shows good gains on both TS and INPUT.
- *India:* Shows strong advance on INPUT and moderate TS gains. This doesn't fully capture the impression that India is booming in information-oriented products and, especially, services. We suspect this is due to two factors: very recent gains that don't yet reflect strongly in these data, and the HTI emphasis on technology-intensive manufacturing. We are revising HTI to better capture information-intensive facets.
- *China:* Wow! Our INPUT-1993 did not suggest this magnitude of gain in Standing. However, the commensurate gains in INPUT-2003 imply that China has not experienced gaining in TS! The trajectory of Chinese increase in high tech competitiveness suggests a new "Big Three" in a decade (USA, Japan, China – consider Figure 1 again).

HTI indicators are not unduly affected by the "Asian Contagion" – the financial difficulties of a few years ago. Indeed, in our 1999 HTI summary, we commented that this did not appear to be exerting long term depression on technology-based export competitiveness. At that time, many worried that it would do so, so we think the HTI model did well in this regard.

Figure 3 shows the "Asian Cubs" together with three Latin American countries. In the late 1980s, these were the two prominent sets of industrialising economies. Brazil's trajectory would not have been anticipated by our model. That suggests the model is probably not rich enough to "advise" policy on its own. In Brazil's case, changes in competitive policy (ending a protectionist approach), compounded with monetary and social issues, have somehow resulted in no gain in TS (again, these are relative measures). However, the decline in Brazil's INPUT suggests that those in power might want to analyse what is happening more deeply. Likewise, Argentina's position bears examination.

In contrast, Mexico has risen from a weak TS & weak INPUT position in 1993. Gains on both are encouraging. Special ties with the USA certainly affect Mexican technology-intensive exports beyond what a general model could capture.

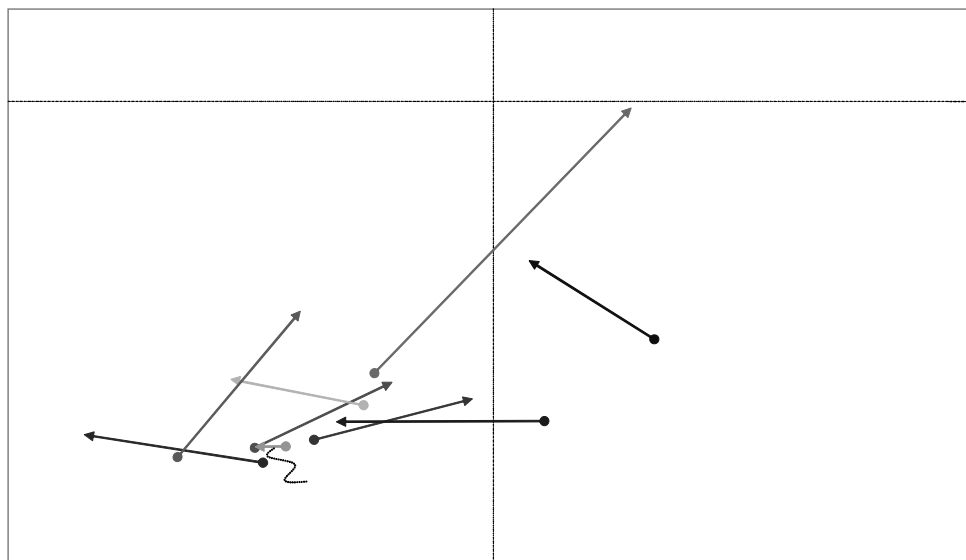
Stepping Back and Looking Ahead

Our model would say look at INPUT-1993; the stronger it shows, the stronger TS-2003 should be. The model was devised to anticipate which industrialising nations would be most apt to become stronger export competitors. We leave this as an exercise for the interested reader. The fit is obviously not simple. We are exploring relations between the four Input indicators (NO, SE, TI, and PC) with future TS. We refer the reader to the website and selected references mentioned.

However, looking ahead, we would suggest considering a country's present INPUT as a rough pointer toward future prospects. In this regard, note the countries with high INPUT-2003:

- USA – a dominant leader in TS, and in INPUT, suggesting bright prospects.
- Japan – slipped somewhat, but still by far the second strongest on both TS and INPUT.
- Extremely strong INPUT countries –

FIGURE 3



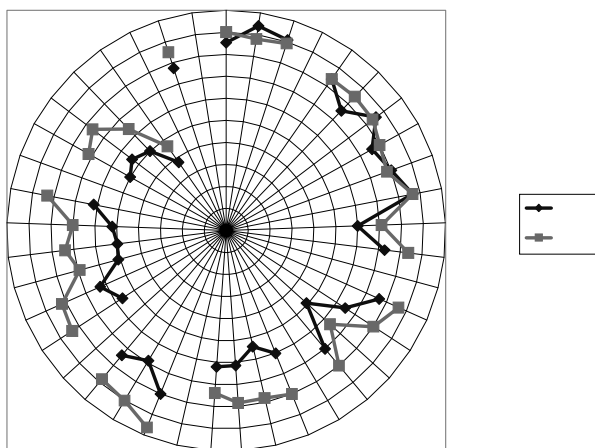
watch for continued competitive gains for Germany, UK, the Netherlands, Singapore, Taiwan, and Canada.

- Also very strong on INPUT-2003 – France & Sweden, and (not shown) Israel & Ireland.

The focus in these HTI indicators is on manufactured products for export. As the world shifts increasingly into an “Information Economy,” we also want to track economies that are strong in information-intensive activities. We are in the process of reformulating HTI to place far more weight on these factors likely to reflect in high tech services and so forth. We anticipate reporting on the “new” HTI shortly. We have gathered a range of additional statistical measures and are presently analysing how best to incorporate these.

What will the future bring in high tech export competition? We close with a view from our International Indicators Panel – the experts whose opinion is incorporated into the indicators. Figure 4 shows their average ratings for each of our 33 countries on (1) present competitiveness, and (2) anticipated competitiveness in 15 years. As scaled here, values range from “10” – essentially no capability, to “50” – products considered technically advanced, “state of the art,” in international markets. The message could not be clearer. Anticipate continued broadening of global competitiveness. Our experts anticipate all of these nations pursuing technological competitiveness, and successfully so. Particularly note the strength of expectations across the board.

FIGURE 4



□

NOTES

- ¹ We appreciate support for this research under US National Science Foundation Contract D020024. Results do not reflect the position or views of NSF. Selected findings from our indicators are included in *Science and Engineering Indicators, 2004* (US National Science Board).
- ² J. David Roessner, Alan Porter, Nils Newman, and David Cauffiel, “Anticipating the Future High-Tech Competitiveness of Nations: Indicators for Twenty-Eighth Countries,” *Technological Forecasting and Social Change*, 51 (1), January 1996: 133-149.
- ³ Alan L. Porter, J. David Roessner, Xiao-Yin Jin, and Nils C. Newman, “Changes in National Technological Competitiveness: 1990-93-96-99,” *Technology Analysis & Strategic Management* 13 (4), 2001: 477-496.
- ⁴ J. David Roessner, Alan L. Porter, Nils C. Newman, and Xiao-Yin Jin, “A Comparison of Recent Assessments of the High-Tech Competitiveness of Nations,” *International Journal of Technology Management*, 23 (6), 2002: 536-557.
- ⁵ Alan L. Porter, J. David Roessner, Xiao-Yin Jin, Nils C. Newman, “Measuring National ‘Emerging Technology’ Capabilities,” *Science and Public Policy*, Vol. 29 (3), 2002: 189-200.
- ⁶ Porter, A.L., Roessner, J.D., Newman, N., Jin, X-Y, and Yglesias, E., *Indicators of Technology-Based Competitiveness of 33 Nations—2003 Summary Report*, Georgia Tech, Technology Policy and Assessment Center, Atlanta, GA, report to the National Science Foundation under contract No. D020024, April 23, 2003.
- ⁷ Roessner, J.D., Porter, A.L., Jin, X-Y., Newman, N.C., and Yglesias, E., *Indicators of Technology-based Competitiveness: Incorporating Recent Changes in the Concept, “High-technology,” and in Data Availability*, Atlanta: Georgia Tech School of Public Policy and Technology Policy and Assessment Center, Final Report to the National Science Foundation, 2001 project No. 9901310.
- ⁸ Porter *et al.*, 2001, *op cit.*
- ⁹ HTI are generated every 3 years. In 2003 we just redesignated them using the year in which they are published (2003) instead of the year in which most data are collected (2002). Also, we note that many of the statistical measures lag, so the data years used vary somewhat on individual measures, and even for particular countries on a given measure. Anyway, the span from 1993 HTI to 2003 HTI is really 9 years.

KALEIDOSCOPE OF INDIA'S TECHNOLOGY EXPORT EFFORTS

Bharat Forge Bags Orders from Ford, Daimler Chrysler

Bharat Forge Ltd (BFL), has been selected by Ford (USA) for supply of components to be used in its next generation V-6 engines to be manufactured at its upcoming \$335 million factory in Ohio, USA. The factory is slated to go into production in 2005.

The BFL has bagged major export orders from Ford and Daimler Chrysler for supplying components for their global car programmes. The shipments are expected to commence from mid-2004.

The company has also won an order to supply control arm forgings to a global passenger car company in Australia and a new multi-year order to supply steering knuckle forgings to Dana in the USA. The contract for passenger car components is a major breakthrough for BFL and a large new market segment has opened up to grow its business.

BFL is setting up a plant for crankshaft machine in Pune and is planning to have this new capacity ready for production in phases, starting by the fourth quarter of fiscal year 2005. The company is also setting up a full-fledged world-class product validation and testing facility that would enable it to offer an end-to-end solution to its customers. □

Satyam Bags \$8 mn. Bangkok Airport Deal

Satyam Computer Services has signed a \$8 million contract with the New Bangkok International Airport-Airport Information Management System (NBIA-AIMS).

Satyam is a part of a consortium, Airport System Integration Specialists (ASIS) led by Siemens, whose other members are ABB, ABB Airport Technologies, and SAMART (a Thailand based company).

The order was won through a global tender for design, development and integrating the airport information management systems planned for the New Bangkok International Airport christened as the 'Suvarnabhumi' Airport.

The airport is expected to be operational by September 2005. On commissioning, it is expected to be the largest

in the ASEAN region. The first phase of the contract for the consortium members involves design and development of the core and operational systems to be followed by the development of business and administration systems. The deal was won against intense global competition after stringent evaluation.

Satyam shall be primarily responsible for integrating the various systems using the web methods integration platform and also for the design and development of the information kiosk for the entire airport. □

Telecom Equipment Exports Register 233.33% Growth

Electronics and Computer Software Export Promotion Council (ESC) says, telecom equipment exports to the USA and Canada are estimated to have surged by 10 times to Rs 132 crore in 2002-03, from Rs 13 crore a year ago, even as total exports of the sector touched Rs 500 crore from Rs 150 crore in 2001-02. The growth in exports is attributed to increasing demand for items such as EPAB/EPAX/intercom, transmission apparatus and satellite communication equipment.

Singapore, Hong Kong and other South Asian countries accounted for the largest share of telecom equipment export from India in 2002-03 at Rs 162 crore over Rs 28 crore in the previous year. The African countries were the third largest destination for exports, where India exported telecom equipment worth Rs 73 crore.

The leading Indian exporters of telecommunication equipment included Midas Communication Technologies, Krone Communications, Ellora Time, Alcatel India, Valiant Communications, U&I Systems, Shyam Telecom, Delhi Call Centres Pvt. Ltd, Bharti Teletech and Priyaraj Electronics Ltd. □

Electronic Goods Exports Double in Last Five Years

The exports of electronic components have registered a growth of 200 per cent between 1997-98 and 2002-03 as multinational companies are increasingly outsourcing their manufacture to India, according to estimates made by the Electronics and Computer Software Export Promotion Council (ESC).

In absolute terms, electronics exports have touched Rs 2,400 crore. Importantly, between 1997-98 and 2002-03, exports have, on an average, grown 24.57 per cent annually (18.41 per cent in dollar terms).

According to ESC estimates, European Union countries were the largest destination for electronic component exports during 2002-03, accounting for 42 per cent of the total exports.

In absolute terms, India exported worth Rs 1,002 crore in 2002-03 compared with worth Rs 676 crore in the previous year, registering an increase of 48 per cent. The other important export markets included Singapore, Hong Kong and neighbouring countries, with a total export turnover of Rs 562 crore. These countries accounted for a market share of 23 per cent.

In 2002-03, exports to this region were up 21 per cent over the previous year exports of Rs 462 crore. □

MTNL Wins Licences in Mauritius and Kenya

Constrained by policy from investing in the domestic market outside Delhi and Mumbai, cash-rich MTNL is expanding abroad in a big way. It has won licences for operating cellular mobile, WLL and ILD services in Mauritius. It has also acquired licence for providing fixed line telecom services in Kenya and is providing CDMA based mobile services in Nepal. It also plans to bid for licences in the Persian Gulf and CIS countries. The company has a cash reserve of Rs 2,300 crore.

Mauritius Telecom is the only international long distance (ILD) service provider in Mauritius. MTNL would be the second ILD operator.

MTNL would be the first operator to offer WLL services based on CDMA technology in Mauritius and would be the third operator in GSM-based mobile telephone services. □

Praj Bags two Contracts for Fuel Ethanol Plants in Colombia

Pune-based Praj Industries Ltd, solution providers for the distillery and brewery industry has finalised contracts for two green-field fuel ethanol plants in Colombia. It has also been awarded a contract for a large-sized ethanol plant based on molecular sieve dehydration technology for installation in Central America. The order value for the three projects amounted to \$15 million.

The company has signed the fuel ethanol contracts in the last week of December 2003 with Grupo Ardila Lulle, one of the larger sugar conglomerates in Colombia. Colombia is the second South American country after Brazil to adopt fuel ethanol policy. In April 2003, the country had gazetted a law, which mandates use of 10 per cent ethanol to petrol. The sugar mills named Incacua and Providencia awarding the contracts based at Valle near Cali in the sugar belt have a capacity of three lakh and 2.5 lakh litres per day respectively.

The third order is for a dehydration unit to be set up for an existing plant in Central America. The capacity of this plant is three lakh litres. The plant would dehydrate raw alcohol to anhydrous alcohol for exports to the USA. All the projects would be completed by March 2005.

Brazil continued to maintain its first position with production of 14 billion litres per year and a domestic consumption of 70 per cent. The remaining was exported to Europe and Japan. The second position was with the USA, which produced 10 billion litres per year (as on 2003) and was estimating to touch 16 billion litres by 2012. Canada came next with ethanol-10 blends to achieve 35 per cent market penetration by 2010.

As regards China, a capacity of three million litres per day was being commissioned in Jilin in North China. The plant is being completed in a phased manner and is expected to begin commercial production in three years.

Praj has been chosen as the preferred supplier for three contracts in Gujarat for setting up fuel ethanol facilities. These green-field sugar factory attached plants would be based on continuous fermentation, multi-pressure distillation and molecular sieve dehydration technology. □

Indian Oil Sells Refining Tech Abroad

Times are changing. India has always been an importer of refining technology, but PSU major Indian Oil is now trying to reverse this trend. The company is trying to market "Indmax", a technology developed in-house by its R&D division. Refiners in Iran, Indonesia and Egypt have shown interest in the technology. International oil technology major, UOP, has reported that it is interested in marketing Indmax along with IOC. Indmax facilitates the conversion of furnace oil and heavy fractions into high value LPG and petrol. For every tonne of the feed, the yield is about 400 kg of high value LPG and 200 kg of petrol. These are lighter and more valuable distillates specially because India is a net importer of LPG. IOC has

already set up an Indmax pilot-plant in its 1 million ton Guwahati Refinery at a cost of Rs 150 crore. The plant can process up to 1 lakh tonnes per annum (TPA) of residuals into high value products. The estimated benefit to the Guwahati Refinery is to the tune of Rs. 55 crore per annum. Indian Oil has identified its 13.7 million tonne Gujarat Refinery as the next target for the process. The process will be designed for a capacity of 1.7 million tonnes, and the investment required would be in the range of Rs 300-400 crore.

The company has decided to go forward with the project 'in principle', though the final clearance is still awaited.

IOC is also exploring international markets for this technology, and has set up a subsidiary company, Indian Oil Technologies Ltd (IOTL), for the purpose. □

Ind-Swift Wins Patent for Drug

The Chandigarh based pharmaceutical firm Ind-Swift Ltd. has received the nod for the first US patent for controlled release macrolide pharmaceutical formulations. The formulation has been developed by the company's research and development unit.

The patent, granted by the US Patents and Trademarks Office, is for a controlled dosage from the macrolide antibiotic drug to be taken once a day as against the conventional dosage form, which was to be taken two times a day. □

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Orchid Drug Cleared for Export to Europe

Orchid Chemical and Pharmaceutical has announced that it has been granted the Certificate of Suitability (CoS) by the European Drug for the Quality of Medicine (EDQM) for its sterile API Product Cefazolin Sodium. This is the fifth CoS that has been granted to Orchid. Cefazolin is a high-margin premium product that has considerable market potential in Europe besides USA and other regulated markets. □

Ashok Leyland Ships 200 Trucks in Iraq

The Ashok Leyland has shipped 200 trucks "Cargo 912" to Iraq. This is the first shipment of the order of the company received for commercial vehicles from Iraq. The contract valued at \$46 million is under the UN Oil for Food Programme. This contract is for a total supply of 3,322 trucks, 1,661 trucks each to the Ministry of Agriculture and Ministry of Transport, Government of Iraq. □

KEC Bags Rs 220 Cr. Order

KEC International Ltd, a RPG Group Company, has bagged a Rs 220 crore order from Powerlinks Transmission Ltd. for setting up 479 km long 400 Kv double circuit transmission lines under the Tala project in Bhutan. The scope of the work involves setting up of transmission lines from Purnea to Muzzafarpur (242 kms) and Bareilly to Mandoal (237 kms) and would be completed by December 2005. The project would be implemented in five sections of which two sections have been awarded to KEC. □

NEPC Set to Export Wind Turbines to Bangladesh

NEPC India Ltd is finalising plans to export wind turbines to Bangladesh, which is planning to instal 100-MW wind power capacity in the next three years.

For the initial installation, Bangladesh has placed orders for four 225-KW wind turbines with NEPC. The company plans to export these machines to Bangladesh in April 2004. It is hopeful to bag more orders and participate actively in the wind power development plans of Bangladesh.

NEPC has also floated a 50:50 joint venture company in Kazakhstan, Turkasthanenergo-NEPC, to develop a 100-MW wind farm there in partnership with the Kazak government. □

RECENT POLICY INITIATIVES

Exim Facilitation Measures Announced by DGFT

The Directorate General of Foreign Trade (DGFT), Department of Commerce, through a series of measures announced has made sincere efforts to fine tune the 2002-07 EXIM Policy so as to consolidate & accelerate incremental growth rate of exports and make India a manufacturing hub for producing quality goods & services.

Far reaching announcements like allowing Capital Goods (CG) imports, based on a Chartered Engineer's certificate for establishing nexus with the export product under Export Promotion Capital Goods (EPCG) scheme without the need for an examination by an Expert Committee and permitting exports of alternate products and services made by Group Companies for the purpose of discharge of export obligation under EPCG scheme will help create additional export markets, enhance operational efficiency of the exporting community, remove procedural impediments and help expand the manufacturing base in the country. Re-determination of Export Obligation of the past EPCG licences on the principle of 8 times the duty saved instead of 5 times the CIF value will go a long way in correcting the distortion of the past EPCG licence holders *vis-a-vis* the licensees under the present liberalised policy. Facility of clubbing of EPCG licences for discharge of export obligation and import of spare refractories, catalyst and consumables under EPCG has also been allowed.

To offset the high power costs faced by the manufacturing industry, duty free fuel will be allowed to be imported with actual user condition under Duty Free Replenishment Certificate (DFRC) scheme. The extension of new benefits relating to Advance Licence for intermediate supplies under Duty Free Replenishment Certificate (DFRC) scheme, facility of grant of export obligation period extension and revalidation facility for Advance Licence for annual requirements being availed by Status Holders, reduction in payment of composition fee for extension of Export Obligation and linking it to duty saved amount and re-introduction of Advance Licence for free of cost material will go a long way in meeting the demands of the industry.

Some of the procedural bottlenecks relating to "deemed exports" benefits have been removed through procedural simplifications. Deemed export benefits for items attracting zero per cent basic customs duty shall be

granted. Deemed export facility shall also be extended to Fertiliser & Refinery projects spilled over from 8th and 9th Plan periods. To reduce transaction costs, fixation of drawback brand rates for deemed exports has been decentralised and delegated to DGFT regional offices.

Equity base of ECGC is being raised from Rs 500 crore to Rs 800 crore to help the Indian exporters in better risk management. In addition, to underwrite high value projects being implemented by Indian companies abroad, a National Export Insurance Account is being created for ECGC. Details are being worked out in consultation with Ministry of Finance.

To promote export related infrastructure, rupee payments received for port handling services shall be counted for discharge of export obligation under EPCG scheme. Import of prototypes shall be also allowed to actual users for R&D purposes without any limit (presently restricted to 10 Nos. per annum). Annual ceiling on export of gifts has been raised from Rs one lakh to Rs five lakh.

Increased focus has also been made on procedural simplification by introducing e-commerce initiatives like digital signature, electronic fund transfer & message exchange with community partners like customs, banks, etc. All these will not only reduce transaction costs for the exporting community but also impart greater transparency and reduce discretion while availing various benefits under the EXIM Policy. □

RBI Lifts Cap on Indian Cos' Investment Abroad

Following the recent announcements made by the Prime Minister, the Reserve Bank of India has decided to allow Indian corporates and registered partnership firms to invest in joint ventures and wholly-owned subsidiaries overseas up to 100 per cent of their net worth without any separate monetary ceiling.

The existing policy requires applicants to obtain specific approval from the RBI for making investment exceeding \$100 million (\$10 million for partnership firms) even when their net worth exceeded the monetary ceiling.

Indian corporates and registered partnership firms have also been allowed to undertake agricultural activities either directly or through an overseas branch. Such investments were so far permitted only through an overseas joint venture or wholly owned subsidiary. The liberalisation will enable the Indian companies to take advantage of global opportunities, the release said. □

JOINT VENTURES/ ACQUISITIONS/SUBSIDIARIES

Reddy's Sets Up South African Beachhead

Dr. Reddy's Laboratories has announced the launch of a joint venture in South Africa to market its products. Called Dr. Reddy's Laboratories Pvt Ltd, South Africa, (Dr. Reddy's SA), the joint venture has been started in association with Venturepharm Pvt Ltd, a part of the J&J group of companies with a 60:40 holding.

The company aims to use South Africa as the gateway towards penetrating and establishing a presence in that region. Dr. Reddy's SA will act as the applicant for local registration purposes and will be responsible for distribution, marketing, sales and business development of Dr. Reddy's products and other selected licensed products. □

Dr. Reddy's Inks Pact with Croatian Co

Dr. Reddy's Laboratories Ltd has announced that it has signed an agreement with PLIVA for development and marketing of oncology products in Europe.

PLIVA is a global pharmaceuticals company based in Zagreb (Croatia) and the agreement covers the development and marketing for 11 oncology products.

Under the agreement, Dr Reddy's would develop the Active Pharmaceutical Ingredients and prepare the drug master file, while PLIVA would be responsible for developing the formulations and preparing the dossier for filing marketing authorisation applications.

By the same contract, PLIVA was granted exclusive marketing rights for 11 Central and East European (CEE) countries, and semi-exclusive rights for the rest of CEE countries and Western Europe. □

TCS Sets Up Subsidiary in Singapore

The billion-dollar software and services consulting organisation, Tata Consultancy Services has set up its subsidiary in Singapore with an investment that exceeds \$6 million.

The subsidiary, Tata Consultancy Services Asia Pacific Pvt. Ltd (TCS APAC) will also function as the

hub of operations for its key regional offices in China, Korea, Taiwan, Malaysia, Australia and New Zealand as well as newly established subsidiaries in Japan and Malaysia.

TCS APAC will also act as a holding company for TCS subsidiaries in Japan, Malaysia and China. The company says that the Singapore office will provide the TCS offices in the region with operational support services, including general and administrative, financial and business development functions from its Asia Pacific operations headquarters. □

Ranbaxy Buys Aventis' Generics Unit in France

Pharmaceutical major Ranbaxy Laboratories Ltd announced that it has inked an agreement to buy RPG (Aventis) SA, along with its fully owned subsidiary OPIH SARL, in France.

The transaction is expected to be completed in the first quarter of 2004, subject to the legal process of consultation with employee representatives, a Ranbaxy communiqué said. The acquired company has its strength in therapeutic areas including cardiovasculars, anti-infectives, gastro-intestinals, rheumatoid/non-steroidal anti-inflammatory drugs, neurology and analgesics.

While the financial terms of the transaction have not been disclosed, according to industry sources, the deal was sealed for an amount ranging between \$50 million and \$60 million (about Rs 300 crore).

The generics business in France is estimated to be about 652 million euros and in size it is smaller than only the USA, Japan, Germany and the UK. RPG Aventis was ranked fifth in the French generic market with sales of 44 million euros for the calendar year ended December 2002. The acquired company has a pipeline of 52 molecules, comprising 18 of the 20 best selling molecules.

France is reported to be the fourth largest pharmaceutical market globally with sales of \$19.2 billion, growing at 4 per cent annually and constituting 4.8 per cent of the world pharmaceutical market.

Aventis develops prescription drugs and human vaccines and has invested 3.1 billion euros in research and development. Headquartered in France, the company employs about 71,000 people in its core business. □

Recent Global Acquisitions Made by the Indian Corporates

The new rules and regulations now permit Indian companies to leverage their net worth aggressively. ONGC's overseas investment arm, ONGC Videsh, has already invested in nine countries – Vietnam, Russia, Libya, Syria, Iran, Iraq, Sudan, USA and Myanmar. ONGC leads the pack with net worth of Rs 35,739 crore followed by Reliance which logs in Rs 27,639 crore and Indian Oil with Rs 18,928 crore. No wonder ONGC Chairman Subir Raha said he plans to invest over \$1 billion towards acquiring properties abroad.

The Indian takeovers of global companies remained exceptional events till 2003. In that year, the pace of Indian takeovers witnessed a new trend. According to one source, more than 40 foreign companies were taken over by Indian companies in that year. Some of the notable acquisitions made by the Indian corporates comprised the following:

- Tata Motors has acquired the truck factories of Daewoo in South Korea for a reported \$118 million.
- The Ambanis have bid for, and look very likely to take over, Flag International, a major international telecom network, for perhaps \$211 million.
- Ranbaxy, our biggest pharmaceutical company, has just acquired RPG Aventis, the French generic wing of the multinational Aventis.
- Wockhardt owned by the Khorakiwalas, acquired CP Pharmaceuticals of UK. The Khorakiwalas had already made a minor foreign acquisition, of Wallis Laboratories, in 1998.
- Hindalco, the flagship company of the Kumar Birla group, acquired two copper mines in Australia – Mount Gordon and Nifty.
- Sterlite, the successful bidder for the privatisation of Bharat Aluminium and Hindustan Zinc, has become a true multinational by acquiring copper mines in Australia. It has also been short-listed as the preferred bidder for buying a 51 per cent stake in Konkola Copper Mines, the biggest government-owned mine in Zambia.
- Sundaram Fasteners, whose production-line includes humble items like radiator caps, nuts and bolts, has acquired Dana Spicer Europe, the British arm of a global multinational. Separately, Sundaram Fasteners is setting up a plant in China to take on the mighty Chinese.
- Amtek Auto, another auto ancillary that came up in the 1990s, has just acquired the GWK group in the UK, which is twice its size. Indian auto ancillary

companies are sweeping world export markets and in the process acquiring MNC rivals that cannot compete.

- After 30 years of supplying components to UK-based SPP Pumps, Kirloskar Brothers has now acquired a majority stake in the British company. □

Bajaj Kawasaki in Tie-Up for ASEAN Foray

Bajaj Auto has struck a global alliance with technical collaborator Kawasaki Heavy Industries to make inroads into the ASEAN region. As a first step, the Bajaj group flagship has appointed Kawasaki Motor Philippines Corporation as sole distributor for marketing its two-wheeler range in that country, starting with three motorcycle models BYK, Caliber 115 and Wind 125. As per the agreement, the motorcycles would be sold in Philippines through 65 dealerships under the Bajaj brand name. □

FEEDBACK

Dear Readers,

Indian Institute of Foreign Trade (IIFT) in collaboration with Department of Scientific & Industrial Research (DSIR) brings out Quarterly Newsletter, *Technology Exports*.

The Newsletter aims to familiarise trade & industry with the latest happenings and to bring out the policy analysis in the field of technology exports.

We have received encouraging responses from Indian missions abroad, embassies in India and trade & industry. Words of praise, especially coming from various Indian missions have been extremely fulfilling and inspiring for us.

While positive responses are highly encouraging, we believe continued "Readers' Feedback" will be the key factor not only for improving the contents but also for maintaining sustained interest.

Therefore, we at *Technology Exports* welcome Readers' valuable suggestions, inputs and constructive ideas. We would appreciate receiving specific information such as lead articles, exportable technological developments, achievements in technology related exports, etc., for publication in the Newsletter. Such information may be addressed to: Editor, *Technology Exports*, Indian Institute of Foreign Trade, B-21 Qutab Institutional Area, New Delhi-110 016.

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