

The background features a collage of four overlapping images: a hospital operating room with medical equipment, laboratory glassware containing various colored pills, a large blue Euro symbol overlaid on a cityscape, and a close-up of a large pile of multi-colored pills.

Opportunities in Healthcare : Indo-German Cooperation

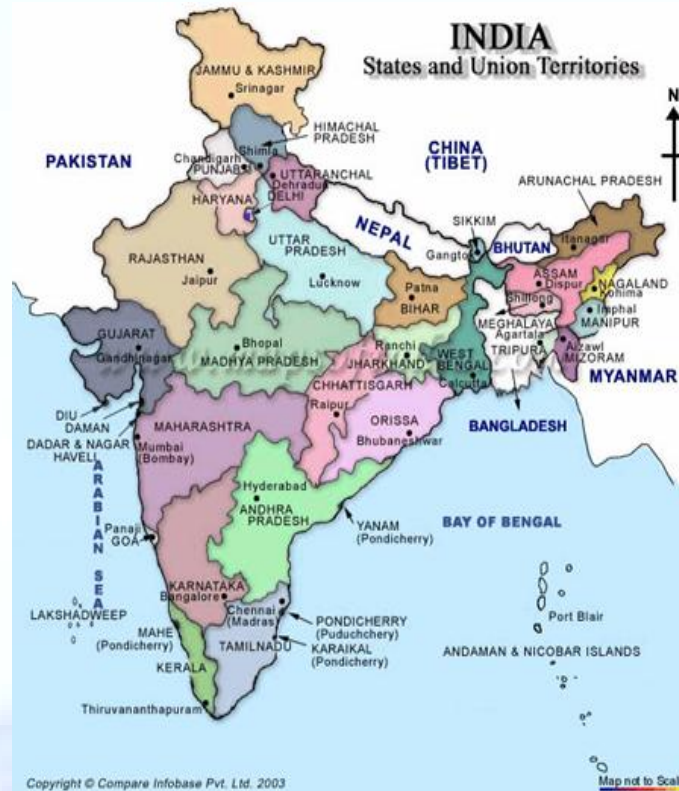
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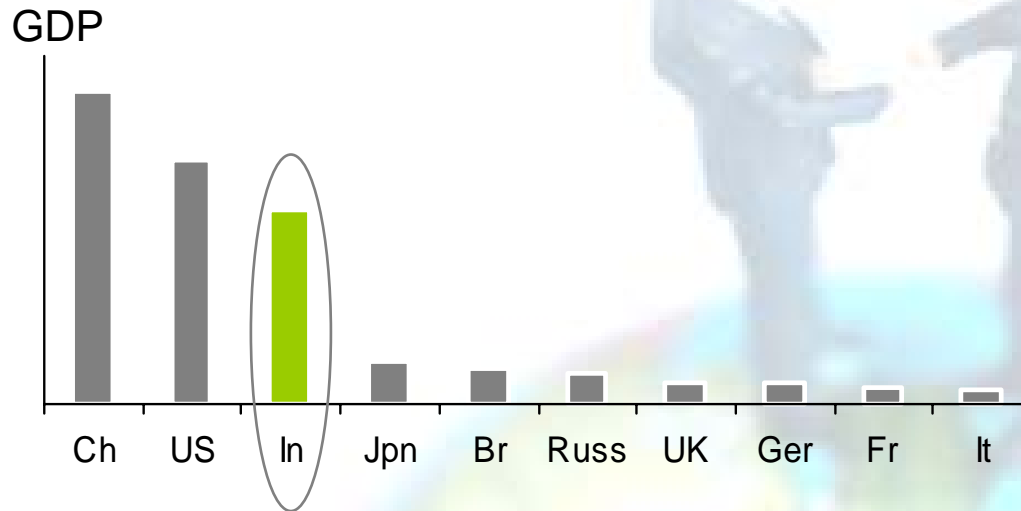
Hanseatic India Colloquium, Hamburg, 09.11.2007

India today – current key figures

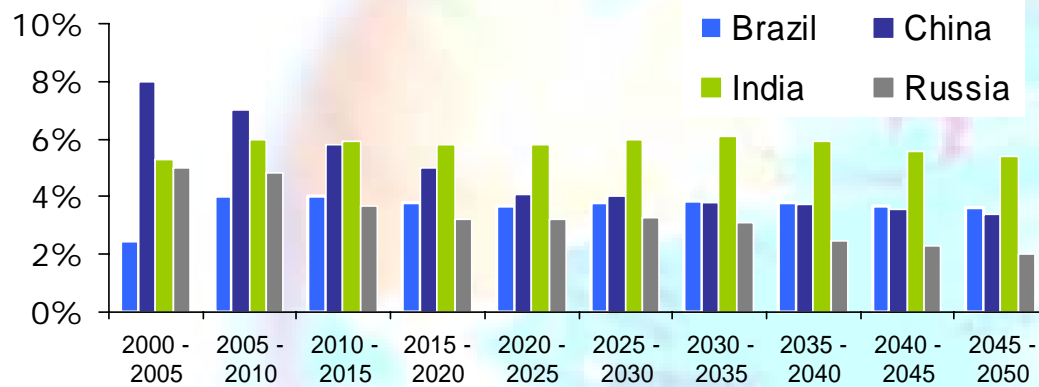


- ▶ Total population: **1,028 mill.**
- ▶ 29 States and 6 Union Territories.
- ▶ GDP: **nearly US\$ 1,000 bn. (+ 9%)**
- ▶ Chemical Ind. in GDP: **13%**
- ▶ Average inflation rate: **4.5% (2006)**
- ▶ Exports: **US\$ 124 bn.**
- ▶ Imports: **US\$ 170 bn.**
- ▶ Interest rate: **7.5 %**
- ▶ Forex Reserves: **US\$ 247 bn.**
- ▶ Literacy: **68%**
- ▶ Developing health care system @ **13%**
(Source: CII Report)
- ▶ **\$ 30.8 bn** Chemical Industry expected to grow to **\$ 60 bn** by FY 2010. (Source: ICMA)
- ▶ Pharma export to regulatory market on the rise.
- ▶ R&D is witnessing high investments
- ▶ Rapid growth of new markets as Clinical / Custom Research Organizations

India is poised to become a strong economy over the next 15-20 years



India is projected to be the third largest economy by 2050



Of the BRIC countries only India maintains 5% GDP growth through 2050

Healthcare Challenges in Asia

- ▶ Out of 1.3 billion Chinese nearly 200 million are overweight.
- ▶ In India, too, the problem is not different.
- ▶ According to a WHO study 60% of Indian population will suffer from coronary heart diseases.
- ▶ By 2030 India will have 80 million people suffering from diabetes. In 2000 this number was close to 30 million.
- ▶ Infectious diseases remain prevalent.
- ▶ Modern day diagnostic technology is available only to a fraction of the population.
- ▶ With the growth in middle-income population, demand for good health services is increasing.
- ▶ Medical tourism requires top of the line medical facilities.

Indian Healthcare Market: Some Facts

Population	more than 1.0 Billion+
Domestic Pharma Products (sales)	ca. 300 Bn Rs. (7-8 Bn US\$)
Projected growth rate*	12-14%
Expenditure on health as % of GDP	6-7%
Per capita expenditure on health	US\$ 30
Out of pocket expenditure (of private)	98.50%
Hospitals	5000+
Drug manufacturers	20,000+
Products	20,000+
Doctors	500,000+
Retailers	500,000+
Wholesalers/Distributors	20,000+

Source: WHO statistics, ORG-IMS; current growth rate Q4/2006 17.6%

Indian Pharmaceutical Market

- ▶ Well developed pharmaceutical industry with strong manufacturing base, growing close to 10% annually.
- ▶ Climbing the value chain from bulk drugs to formulation.
- ▶ Global no. 4 with 8% in volume and 2% in value. The largest number of USFDA approved manufacturing facility in any country outside USA.
- ▶ 40% (€ 3.2 bn) exported to 200 countries incl. U.S. and Europe.
- ▶ Clinical Laboratory Services dominated by few big players.
- ▶ Laboratory equipment manufacturing is rudimentary.
- ▶ Most equipments for clinical and R&D services are imported.
- ▶ With new hospitals coming up like mushrooms, the demand for equipments is expanding rapidly.

LIBERALISATION → INNOVATION → GROWTH

- Liberalisation and globalisation has produced a pressure on Indian Pharmaceutical and biotechnology industry to innovate.
- Pressure to innovate is an important factor leading to a strong growth in these two industry branches.

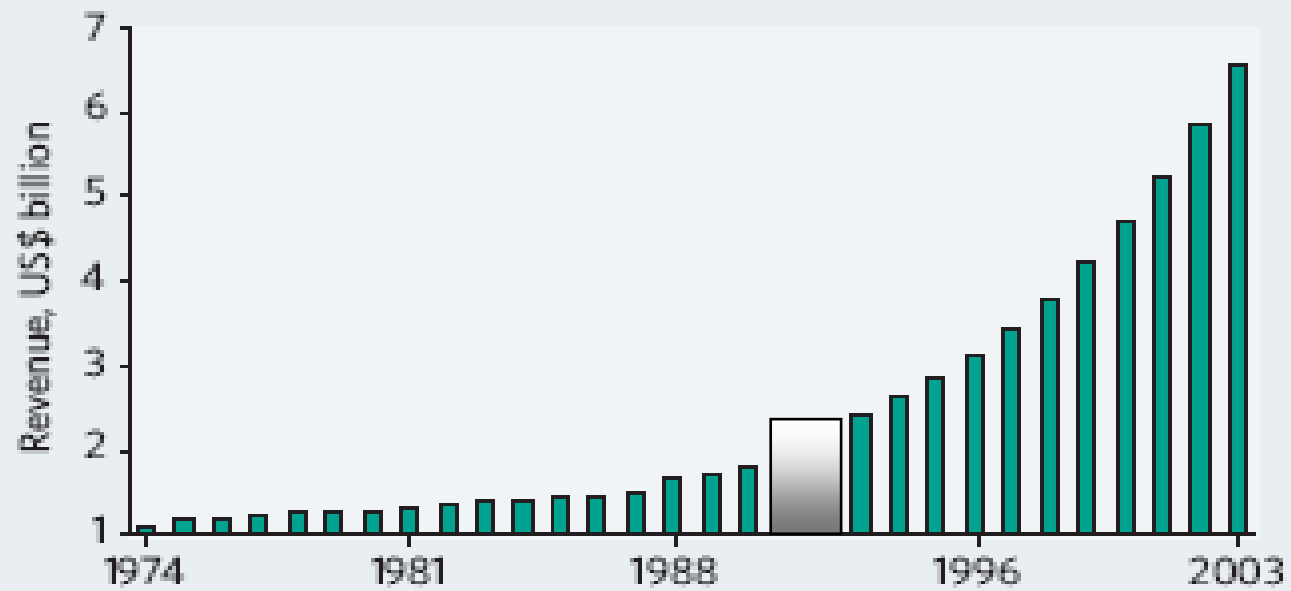
FOREIGN DIRECT INVESTMENT

- Foreign Direct Investment (100 %) has been allowed without prior Govt. approval in most of the cases.
- Prior Govt. approval required in some cases involving compulsory licensing (due to locational policy and a few items reserved for small scale sector)

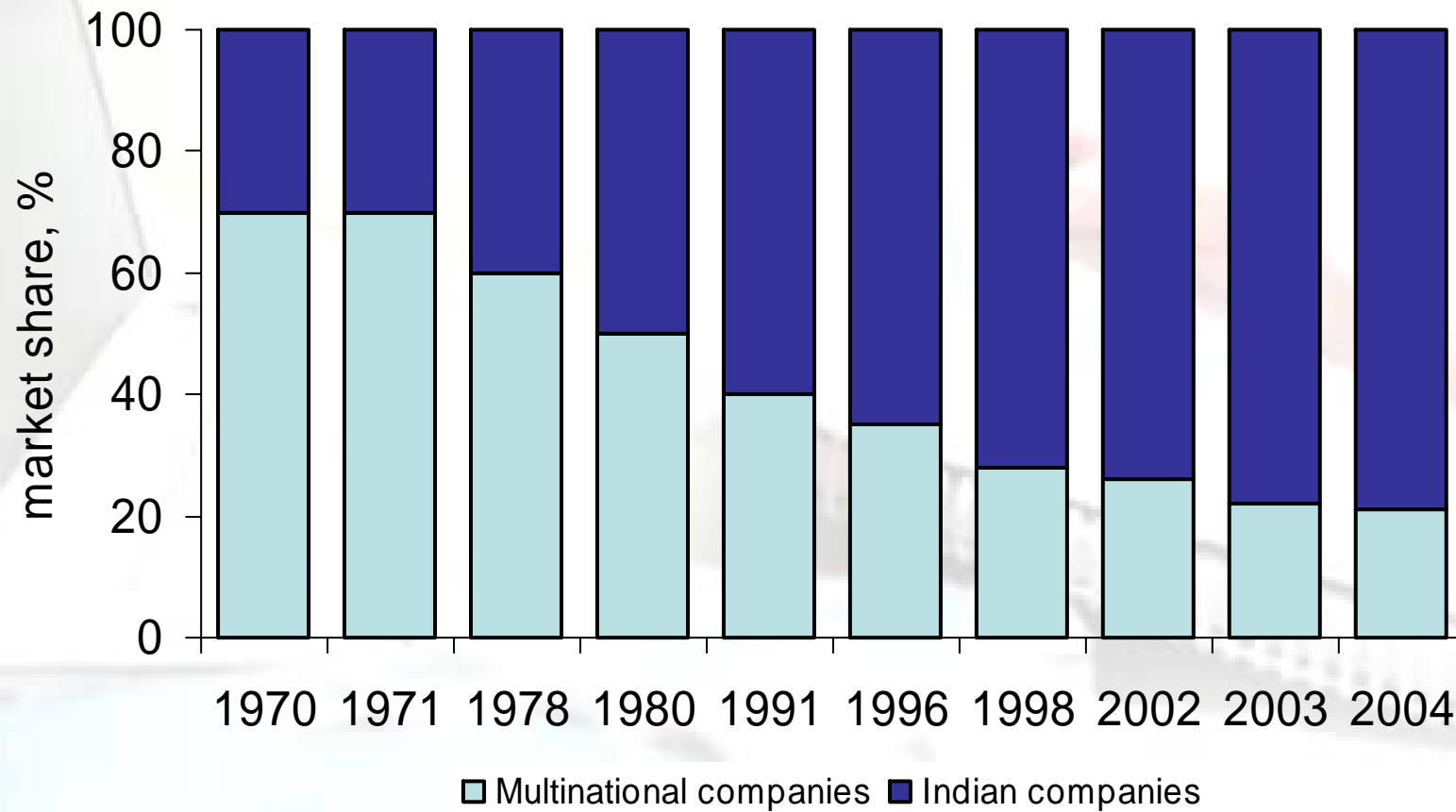
New IPR regime in compliance with WTO

- **Shift from Process patent to Product patent regime - will protect all New entrants / entities from 2005**
- **New patent regulations is causing a major structural shift with the entry of foreign players**

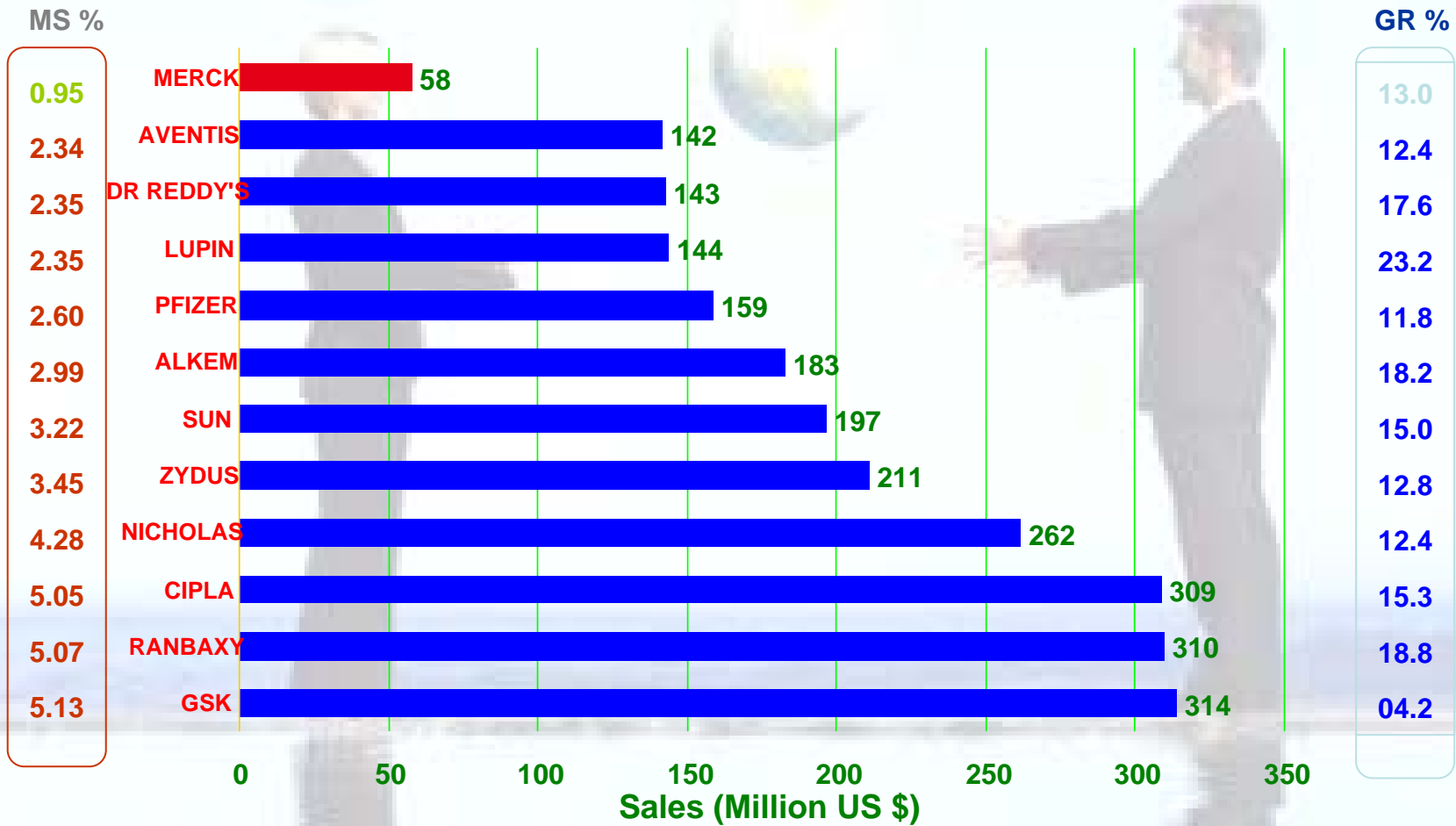
GROWTH IN DRUG PRODUCTION IN INDIA



Native Companies dominate India's Pharmaceuticals Market



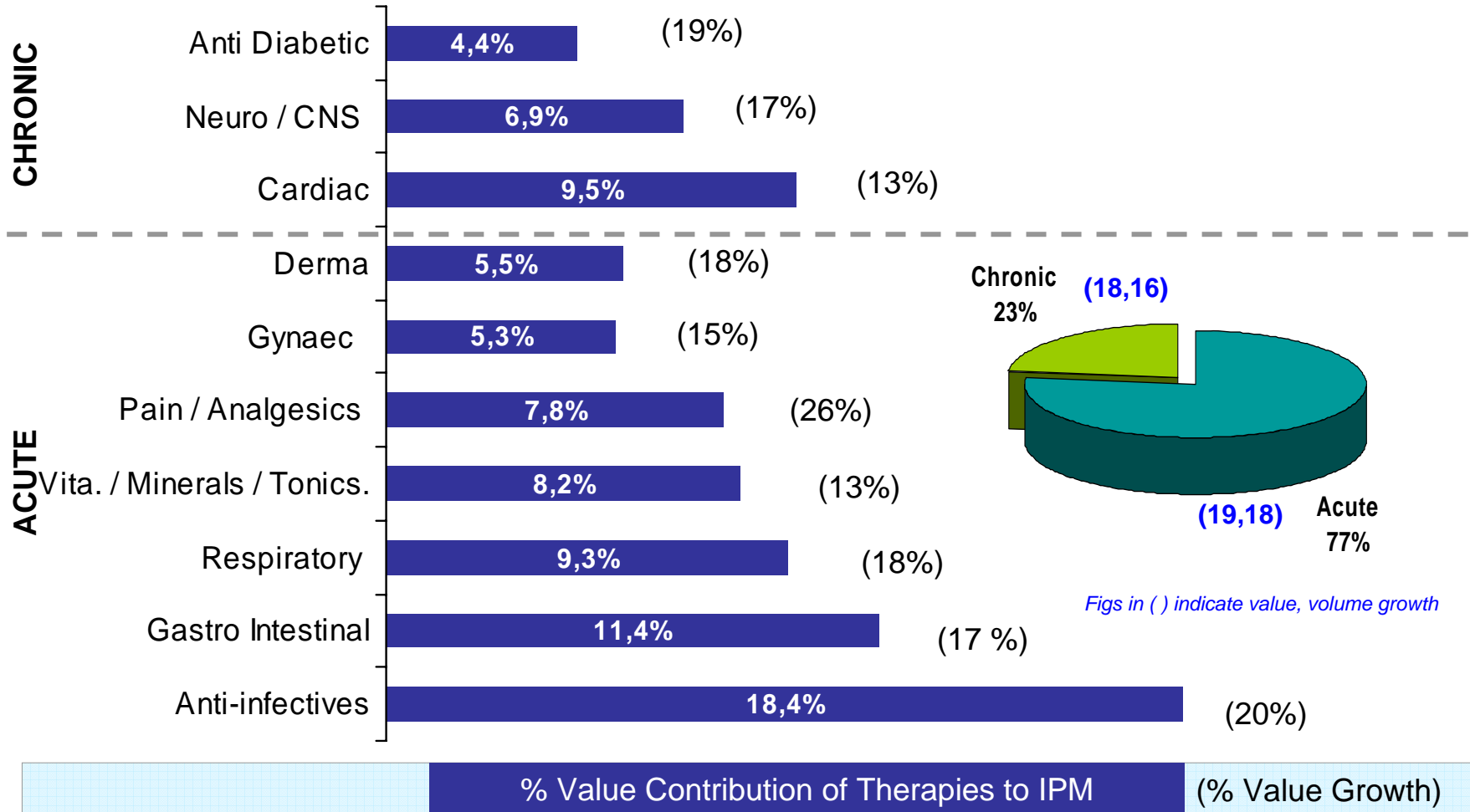
Only three MNCs rank among the Top 10 companies taking 36% share of the Indian Pharma Market



Source : Dr. Dziki and ORGIMS SSA Jan 2007

Therapy Split

Although there is a steady shift to chronic therapy, both therapies have shown similar GR this year



*Source ORG-IMS SSA Jan 07; selected therapeutic areas only From Dr. Dziki

German Pharma/Healthcare/ Med. Instrumentation companies present in India

Aventis Pharma

Bayer Diagnostics India Ltd

Braun Medical Systems Pvt. Ltd

Biersdorf India Ltd Foreign Direct
Investment

Biomed Hitech Industries Ltd

Centres for Medical Innovation (CMI)
India Ltd

Dornier India Medical Systems Pvt. Ltd

Dr. Willmar Schwabe India Pvt. Ltd

Eppendorf India Ltd

Fresenius Kabi India Ltd

German Remedies Ltd

Hoechst Marian Russell

Karl Storz Endoscopy India Pvt. Ltd

Kendro Lab Products India Ltd

KOB Medical Textiles Ltd

Madaus Pharmaceuticals (India) Ltd

Merck India Ltd

Ormed Medical Technology Ltd

Otto Bock Healthcare India Pvt. Ltd

Ratiopharm India Pvt. Ltd

Sartorius India

Schutz Dishman Biotech Ltd

Toshvin Industries Ltd

Usha Drager Ltd

Zydus Altana

German companies in India outperform SENSEX

As on	IGCC 15	Sensex*	Nifty*
29th Oct 2007	1129.64	615.43	559.64
Chg since 1/1/02	1029.64%	515.43%	459.64%

* - Indexed at 100 as on 1st January 2002

**The best performing companies in the IGCC 15 Index till date
(since 1/1/02) are:**

	% chg
Siemens	4988.96
MICO	1928.09
FAG Bearings India	1028.85

Can India be a worthy destination for European companies?

SWOT ANALYSIS (I)

▶ Strengths

- ▶ Highly qualified and less expensive manpower
- ▶ Strong knowledgebase supported by highly developed IT-enabled services
- ▶ Well net-worked laboratories at Universities and research Institutes
- ▶ Rich biodiversity with highly homogenous ethnic population pockets
- ▶ Well developed pharmaceutical and agro industries
- ▶ Access to intellectual and capital resources from Indian scientific diaspora

▶ Weaknesses

- ▶ Research and commercialisation remain apart
- ▶ Lack of venture capital
- ▶ Relatively less R&D emphasis and expenditure
- ▶ Lack of innovative R&D culture and poor IPR protection
- ▶ Poor brand name of Indian industries

Can India be a worthy destination for European companies?

SWOT ANALYSIS (II)

▶ Opportunities

- ▶ In India healthcare expenses are infinitely small currently but with a rapidly improving standard of living there is rapid growth in health-care related expenditure
- ▶ There is a demand for high quality medical care as in most cases expenses are paid by the patients privately
- ▶ The market welcomes innovative technology and is wide open
- ▶ TRIPS Agreement protects innovation and 100% foreign direct investment is permitted

▶ Risks

- ▶ Excessive government control on prices
- ▶ Downturn of world economy due to geopolitical risks
- ▶ Legal issues may take too long to sort out
- ▶ Devaluation of the Indian currency

Potential areas of collaboration

Drug Discovery

- Target validation
- Animal studies
- Genomics
- In silico computational modelling
- Biologics

Drug candidates

- Custom synthesis
- Combinatorial synthesis
- Library of plant products
- Biopharmaceuticals
- Drugfarming

cGMP manufacturing

- Chemical compounds
- Vaccines
- Biogenerics
- Biologics

Clinical Trials

- CROs
- Safety & Toxicity
- Multi-centre trials
- Anti-infectives

Examples of Recent R&D Deals between Indian and Foreign Companies:

- ▶ License Agreement between **Torrent Pharmaceuticals Ltd. and Novartis Pharma AG**, for global rights to its patented AGE (Advanced Glycosylation Endproducts) breaker compound. AGE breaker compounds have potential in the treatment of heart disease and diabetes related vascular complications.
- ▶ **Glenmark Pharmaceuticals Inc (GPI)**, has signed a \$27 million royalty deal with international healthcare investment fund Paul Capital Partners' Royalty Fund to finance the development of 16 dermatological products by GPI for the US market.
- ▶ **Merck KGaA and Glenmark Pharmaceuticals** announce Collaboration Agreement on DPPIV (Dipeptidyl peptidase IV) enzyme Inhibitor for Type 2 Diabetes.
- ▶ Indian company **Advinus Therapeutics** has signed a deal with **Merck & Co. (USA)** to jointly develop two metabolic drugs. Advinus expects to gain \$74.5 million for each product and has also received an undisclosed up front payment. Additionally, Advinus will receive royalty payments on sales of the drugs.
- ▶ **Glenmark Pharmaceuticals** outlicenses a product for management of osteoarthritis pain to Eli Lilly in a deal worth nearly \$350 million

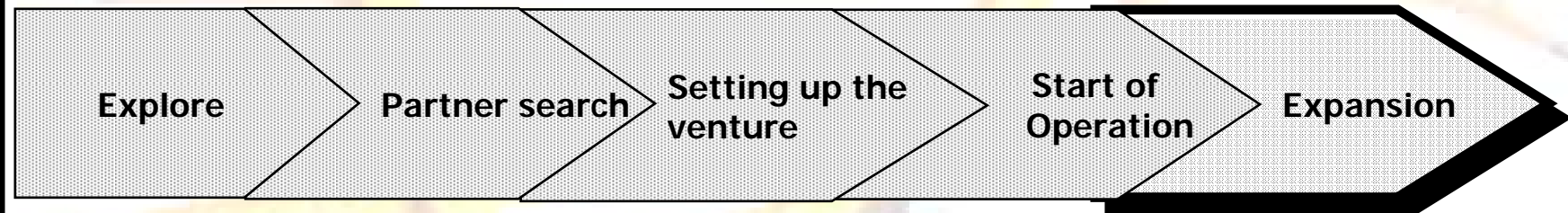
“India is positioned to grow into a major R&D center for biotechnology companies”



G Steven Burrill is CEO of Burrill & Company, a life sciences merchant bank engaged in three core activities - venture capital investment, strategic partnering and strategic advisory services.

Pharmabiz.com, June 2004.

Entering the Indian Market



SUMMARY:

- India is a great market to be in now
- Opportunities are abundant but so are risks
- Integrate local market expertise into strategy development
- Success is guaranteed only by a careful and well-devised strategy
- Minimise risks by timely help of a specialist
- Increase Return on Investment through specialised counsel

Thank You!

