

INDIA & INDIAN RAILWAYS





Outline

- India-Introduction
- Geography/history
- Government/Politics
- Religions/Culture
- Great Leaders
- Economy
- Useful Links And Sights of India



INDIA

Today attracts attention worldwide for-----

- Spiritual Treasures
- Yoga System
- Alternate Therapy - AYURVEDA
- IT Professionals
- Demographic Dividend
- Fast Developing Economy (BRICS)

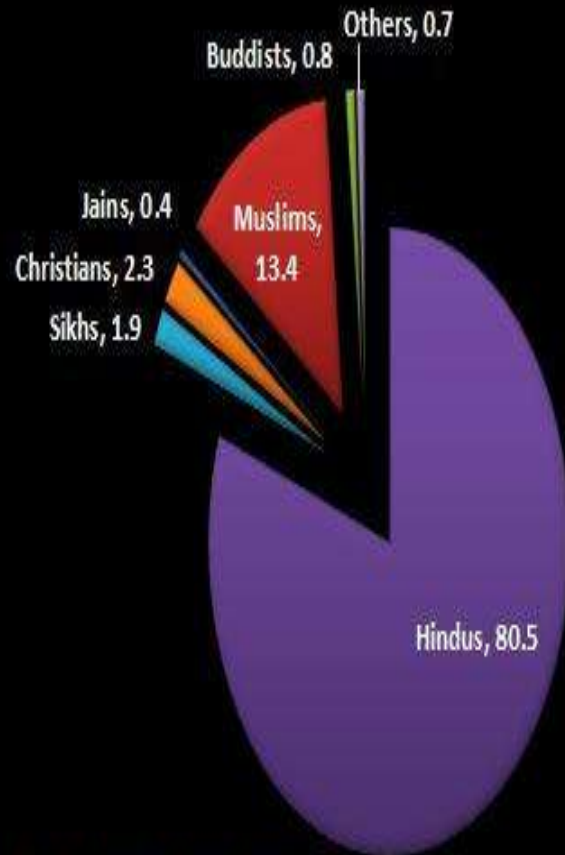


Some facts

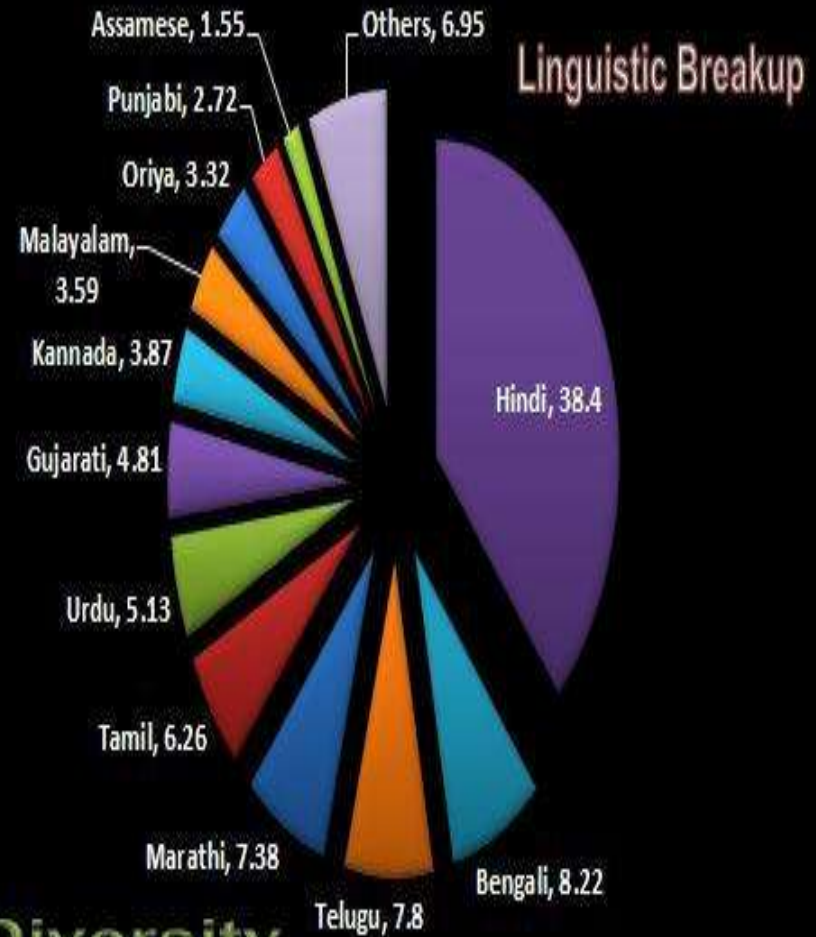
- ❖ 5,000 year old civilization
- ❖ 325 languages spoken – 1,652 dialects
- ❖ 18 official languages
- ❖ 29 states, 5 union territories
- ❖ 3.28 million sq. kilometers - Area
- ❖ 7,516 kilometers - Coastline
- ❖ 1.25 Billion People-youngest population



Population



Religious Breakup



Linguistic Breakup

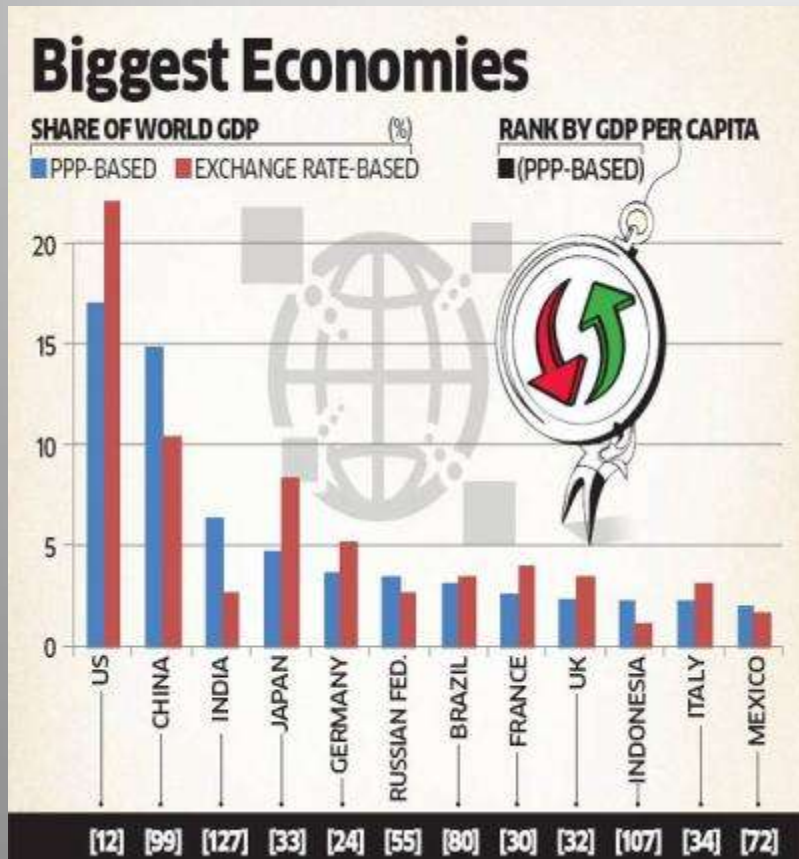
Unity in Diversity



- ❖ Parliamentary form of Government
- ❖ Secular democratic constitution
- ❖ World's largest democracy
- ❖ 3rd largest economy
- ❖ Fastest growing IT super power
- ❖ Indian Railways, the 7th biggest employer in the world.



INDIA @3at



| Ranking by GDP (PPP-based) | Economy | Share of world GDP (PPP-based, world = 100) | Share of world GDP (exchange rate-based, world = 100) | Ranking by GDP per capita (PPP-based) |
|----------------------------|---------------------------|---|---|---------------------------------------|
| 1 | United States | 17.1 | 22.1 | 12 |
| 2 | China | 14.9 | 10.4 | 99 |
| 3 | India | 6.4 | 2.7 | 127 |
| 4 | Japan | 4.8 | 8.4 | 33 |
| 5 | Germany | 3.7 | 5.2 | 24 |
| 6 | Russian Federation | 3.5 | 2.7 | 55 |
| 7 | Brazil | 3.1 | 3.5 | 80 |
| 8 | France | 2.6 | 4.0 | 30 |
| 9 | United Kingdom | 2.4 | 3.5 | 32 |
| 10 | Indonesia | 2.3 | 1.2 | 107 |
| 11 | Italy | 2.3 | 3.1 | 34 |
| 12 | Mexico | 2.1 | 1.7 | 72 |



India's history goes back to 3,200 BC when Hinduism was first founded. Buddhism, Jainism, Sikhism. Judaism. Zoroastrianism, Christianity and Islam all exist within the country today.

THE TRINITY



Brahma the
Creator

Vishnu the
Preserver

Shiva the
Destroyer



The Great Indian Epics



Ramayana
The first Indian epic



Mahabharata
Longest Epic in world
literature with 100,000
two-line stanzas



The Indus Script



Indus Valley Civilization- one of the world's first great urban civilizations.

Harappan Civilization- 2700BC



World's first university in Takshila –700
B.C

Ayurveda- earliest school of medicine
known to humans

Sanskrit Language –most suitable for
computer software



Yoga- Made in India



Origin –5000 BC

International Yoga day 21 June



15th August, 1947

Indian Independence

SAFFRON - stands for renunciation, disinterestedness, courage and sacrifice.

WHITE –
symbolizes truth,
peace and purity.



The ASHOK CHAKRA (wheel) represents the righteousness, progress, and perpetuity. The 24 spokes of the wheel represents the 24 hours of a day.

GREEN – represents prosperity, vibrance and life.

26th January, 1950

Republic- India

National Emblem



सत्यमेव जयते

“Truth alone triumphs”

National Animal- Royal Bengal Tiger



National Bird - Peacock



National Flower - Lotus



No national game- but we are passionate about SPORTS





Great Indian Personalities



Aryabhata



Invented the Zero



Mahatma Gandhi



Father of the nation

Embodiment of Non- Violence

Swami Vivekananda



Champion of humanitarianism

Rabindranath Tagore



1913 – Nobel Prize in Literature

C.V Raman

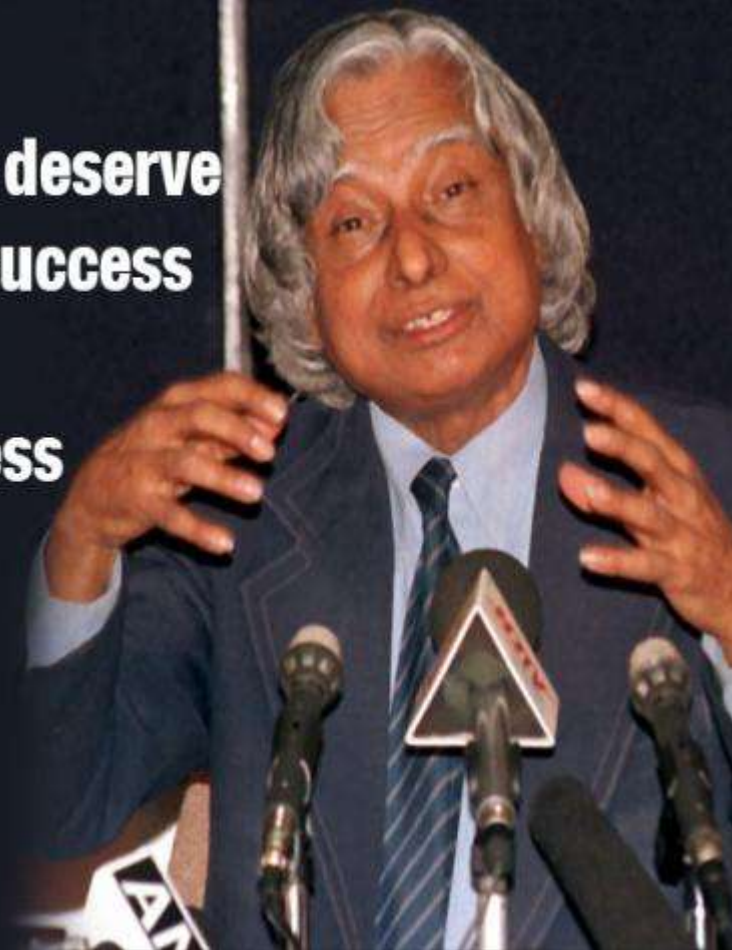


1930 - Nobel Laureate in Physics

Work on scattering of light and Raman effect

**The country doesn't deserve
anything less than success
from us.
Let us aim for success**

- A. P. J. Abdul Kalam



India Launches 104 satellites into space in a single mission on 15th February 2017



7 Classical Dance forms



Bharata Natyam

(Dasi Attam)



Kathak

('katha' meaning story)



Kathakali

(half-Aryan and half-Dravidian)



Kuchipudi

(Brahmin story telling)



Manipuri

(Gandharvas and the Goddess of Dawn)

India & IR SMS SPMGT NAIR



Mohini Attam



Odissi

(temples and religion)

India & IR SMS SPMGT NAIR



India - God's own country

Celebrates more than 65 festivals

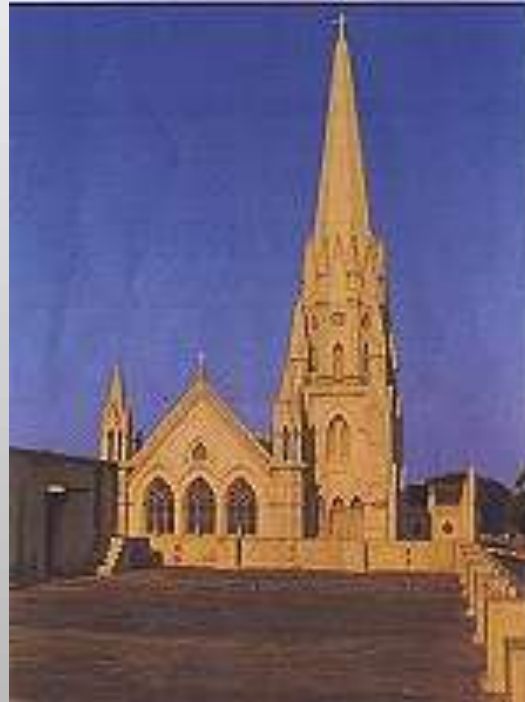


Places of historic importance



Tirumala - Tirupati

World's richest temple



Saint Thomas Cathedral

Statue of Virgin Mary brought from Portugal in 1543



The Golden Temple



Jamma Masjid

The biggest mosque in India



Gateway of India



Jantar Mantar – 1716

Modernistic structures to observe the movement of stars



Hussainsagar Buddha Statue, Telangana

Largest monolithic statue in Asia



Dal Lake

Jewel in the crown of Kashmir



The Taj Mahal



Calcutta – City of joy



Mawsynram in Meghalaya

Wettest place on earth

Himalayas





Economic and Demographic Trends



Economic and Demographic trend



| Growth | 1980s | 1990s | 2000-2007 | 2007-2012 |
|---------------------------|--------------|--------------|------------------|------------------|
| World | 3.2 | 3.0 | 4.2 | 2.8 |
| Advanced Economies | 3.1 | 2.7 | 2.6 | 0.3 |
| Emerging Economies | 3.5 | 3.6 | 6.5 | 5.6 |
| Developing Asia | 6.7 | 7.2 | 8.4 | 8.1 |
| India | 5.4 | 5.6 | 8.4 | 8.1 |
| China | 9.8 | 10.0 | 10.5 | 9.6 |
| Brazil | 3.0 | 1.7 | 3.5 | 3.8 |
| Russia | N.A. | N.A. | 7.2 | 1.5 |

Using technology to leapfrog

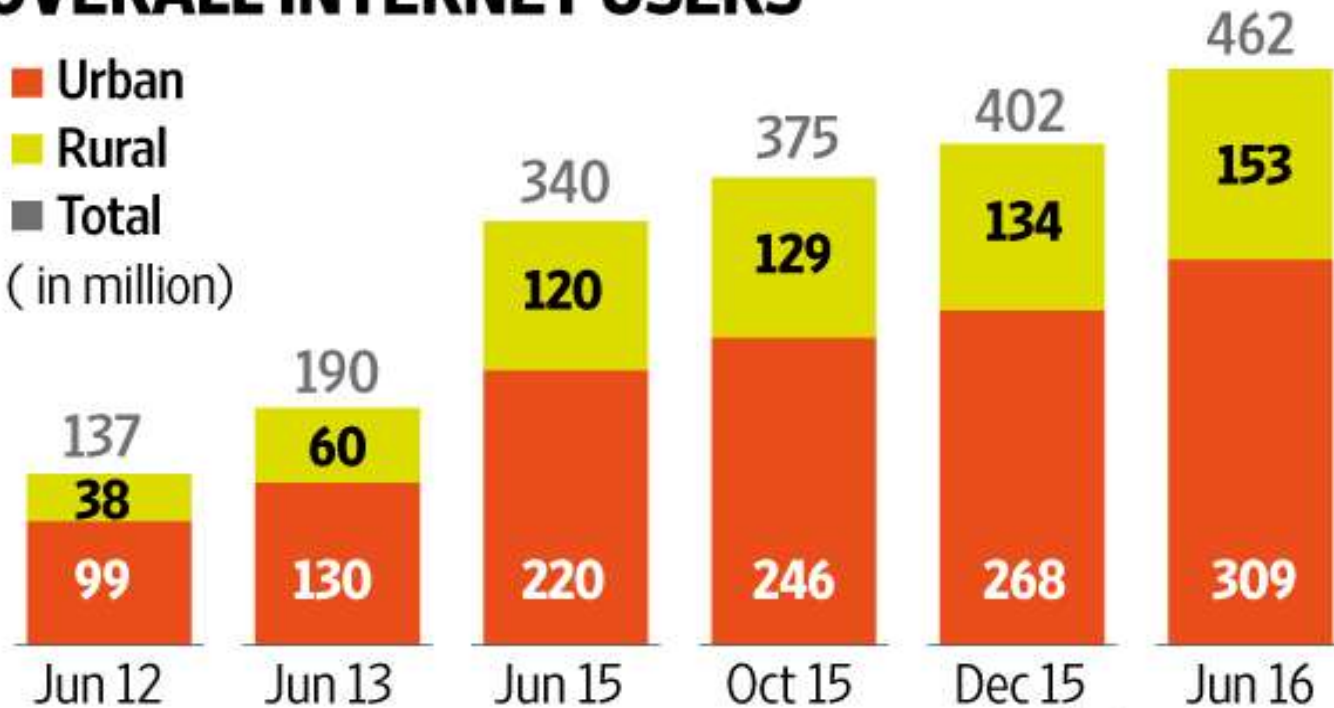


- ❖ **Digital India** - Transform India into a digitally empowered society and knowledge economy
- ❖ **Jan dhan** – 170 million new bank accounts of households
- ❖ **Aadhar** – 1 billion aadhar enrolments, Unique identity movement
- ❖ **Mobile** – 900 million cell phone users (370 mn in rural areas)
- ❖ India using mobile technology, unique identity & bank accounts



OVERALL INTERNET USERS

Urban
Rural
Total
(in million)



Figures include users who have accessed the Internet even once.

— Estimate —

Source: IAMA-IMRB I-cube estimates

India at the heart of frugal Innovation

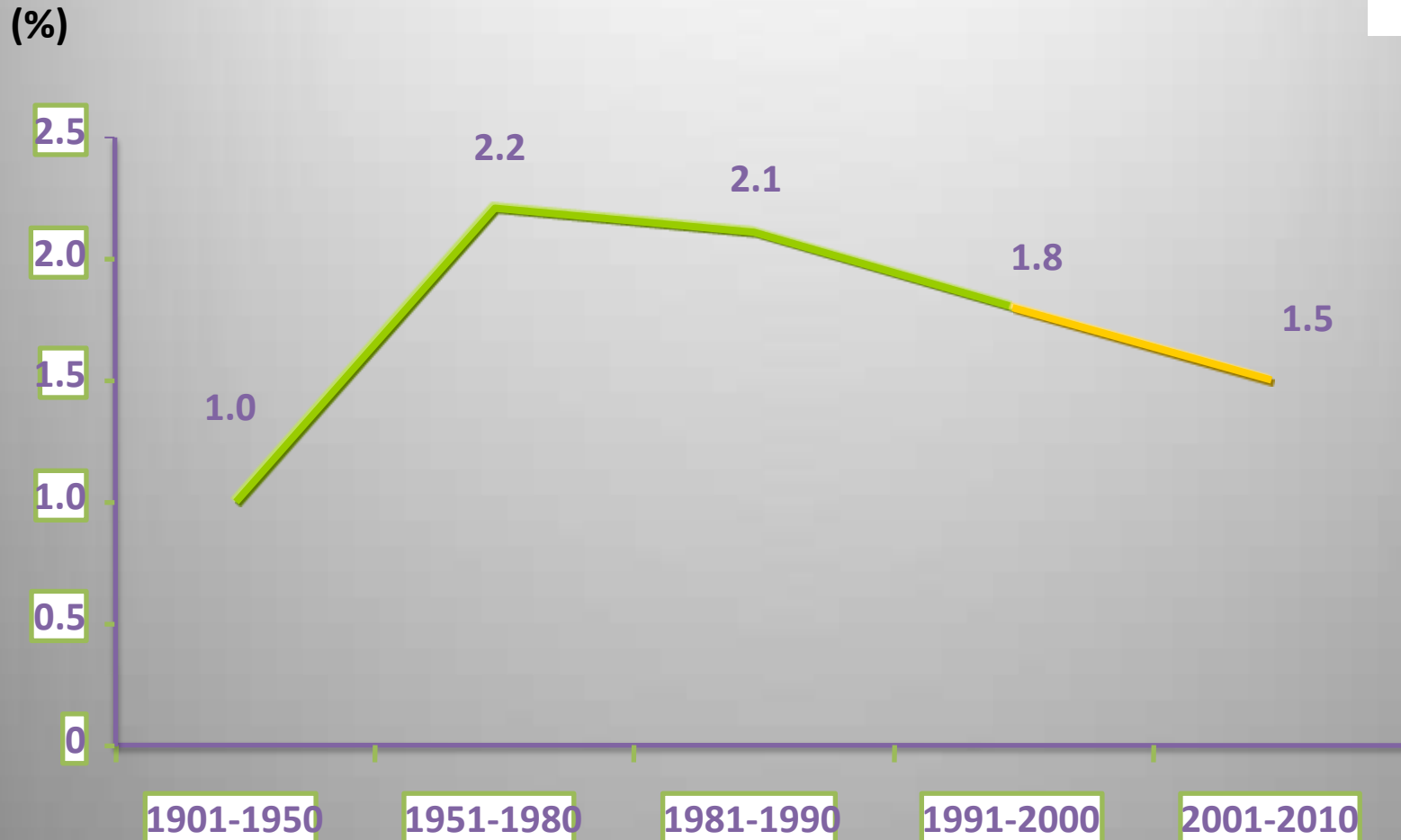


Low cost but not low tech!

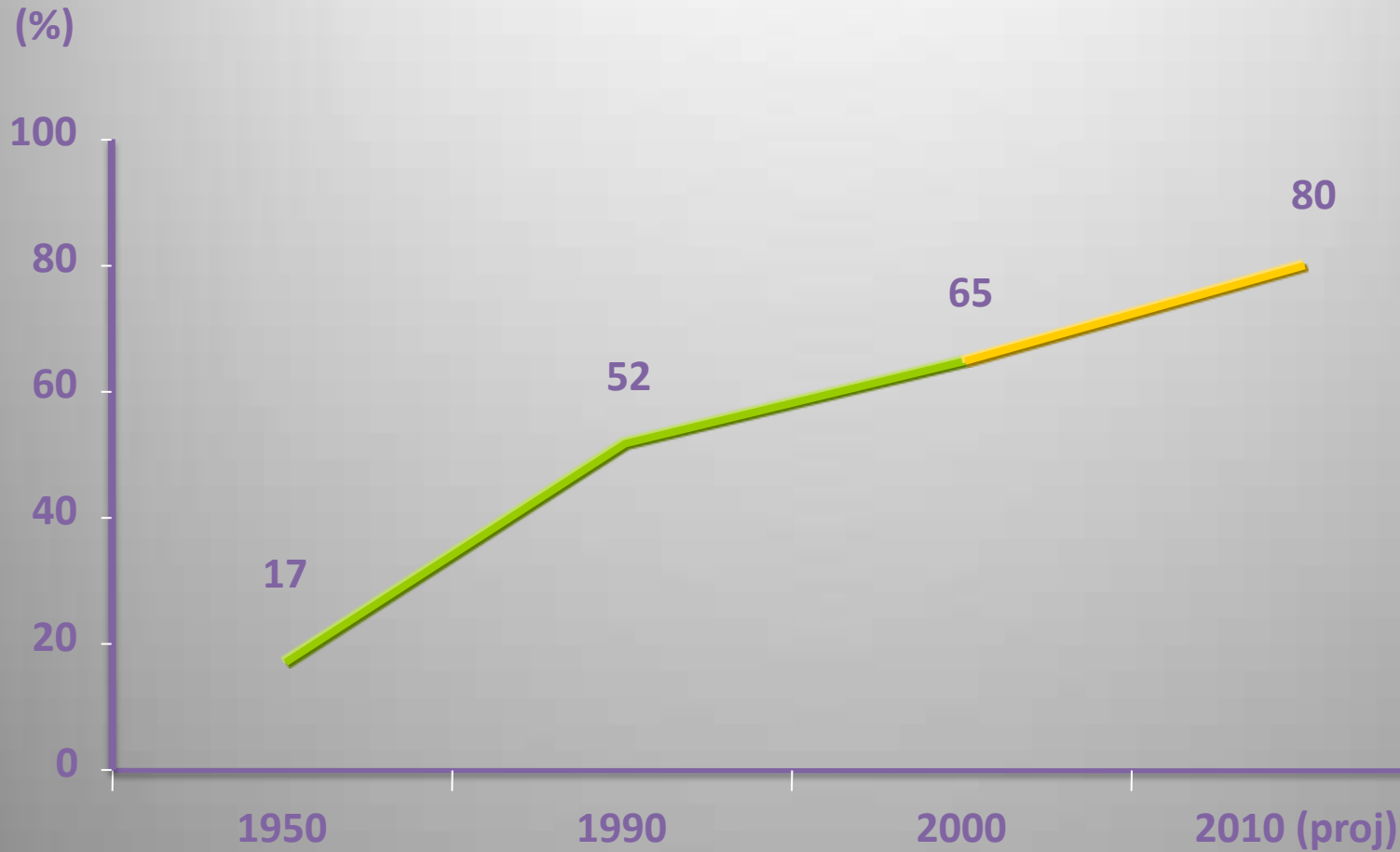
- ❖ Renault KWID will do much better than any other car because it has Indian Genes – Carlos Ghosn, chairman & Ceo Renault
- ❖ General electric's Mac 400 electro cardio graph (ECG) Machine {1500\$ instead of 10000\$ for its predecessor. Cost of ECG just 1\$}
- ❖ [Heart surgery costs between 2000\\$ & 5000\\$ as compared to 20000-100000\\$ in US](#)
- ❖ Jaipur foot for US \$45 and Jaipur knee for US \$20 - 50 top inventions of the world – Time magazine
- ❖ Mangalyaan – Mars orbiter mission US 73 Million – 1/10th the cost of any previous Mars mission.



Population growth is slowing

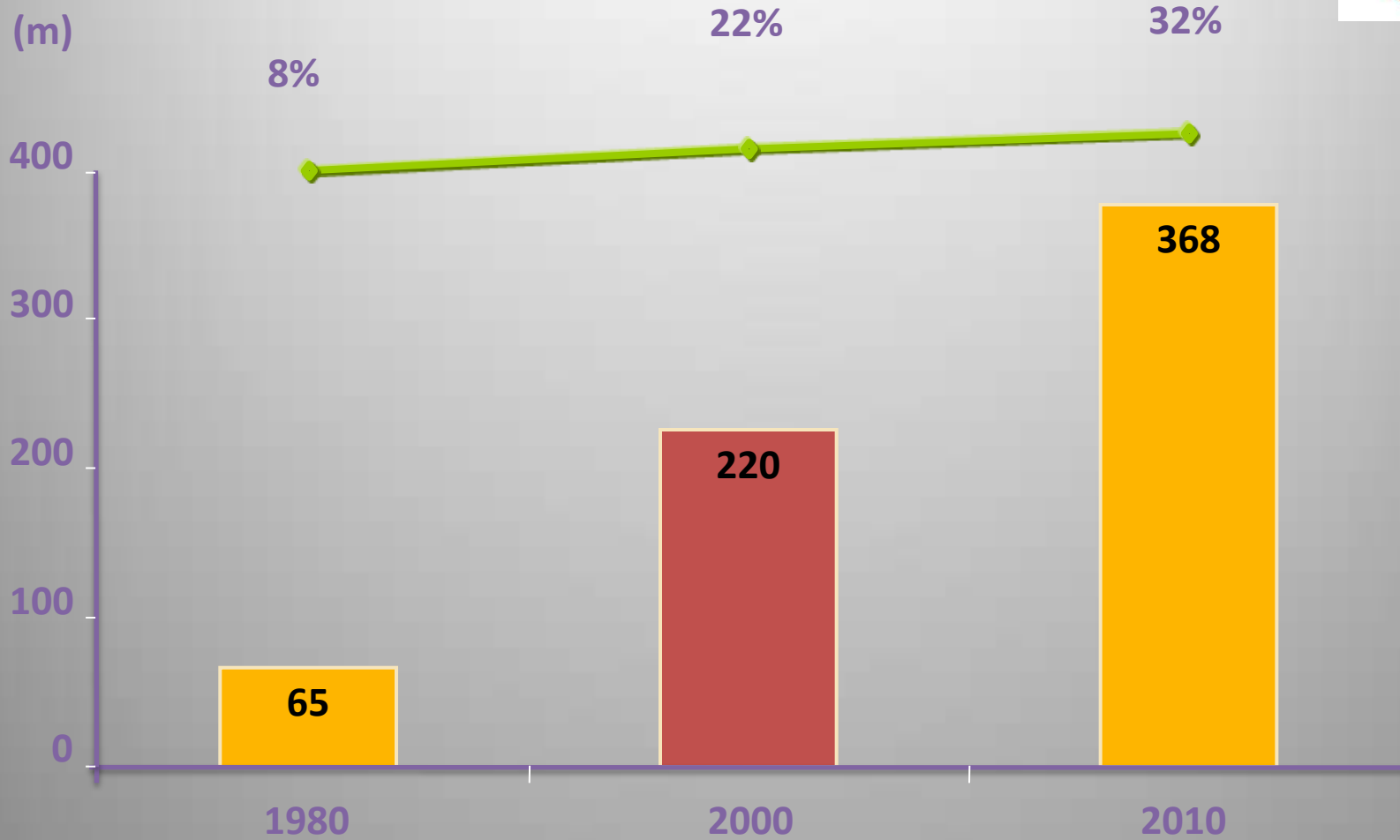


Literacy is rising



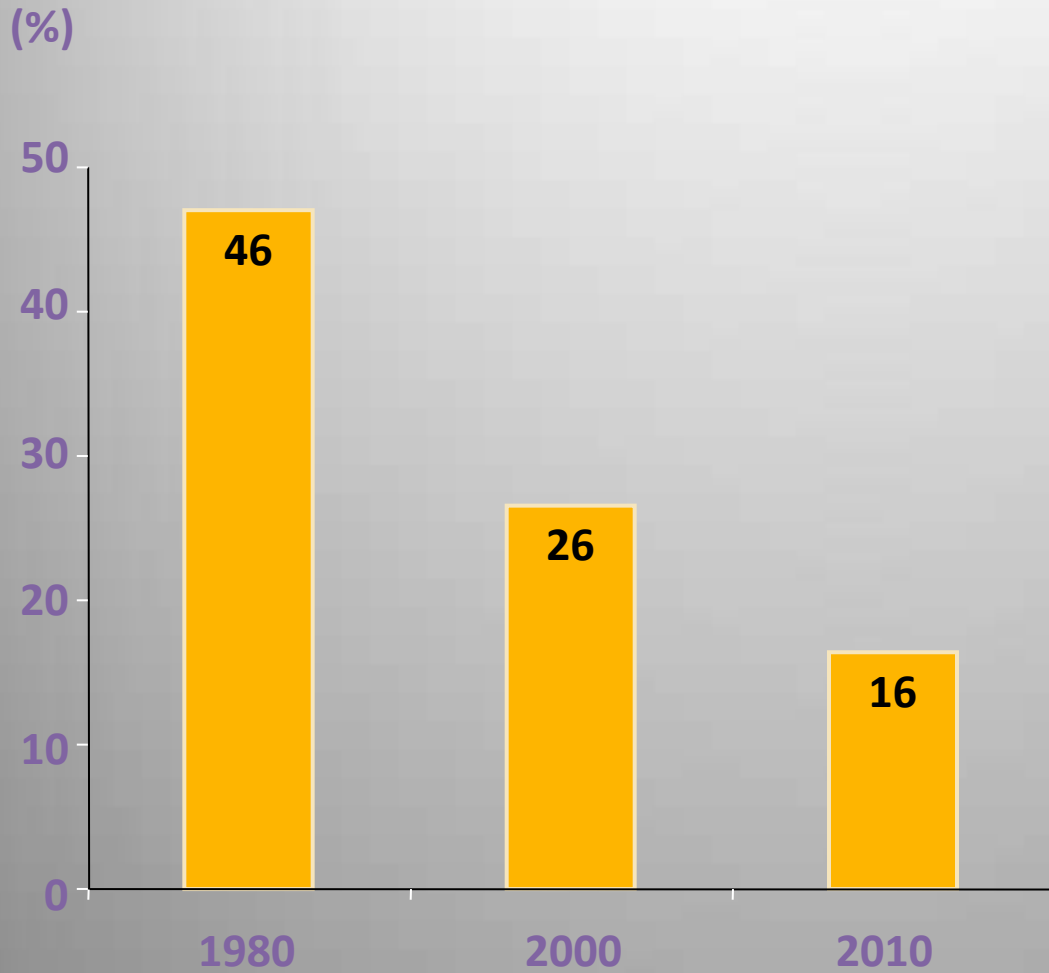


Size of middle Class





Poverty is declining



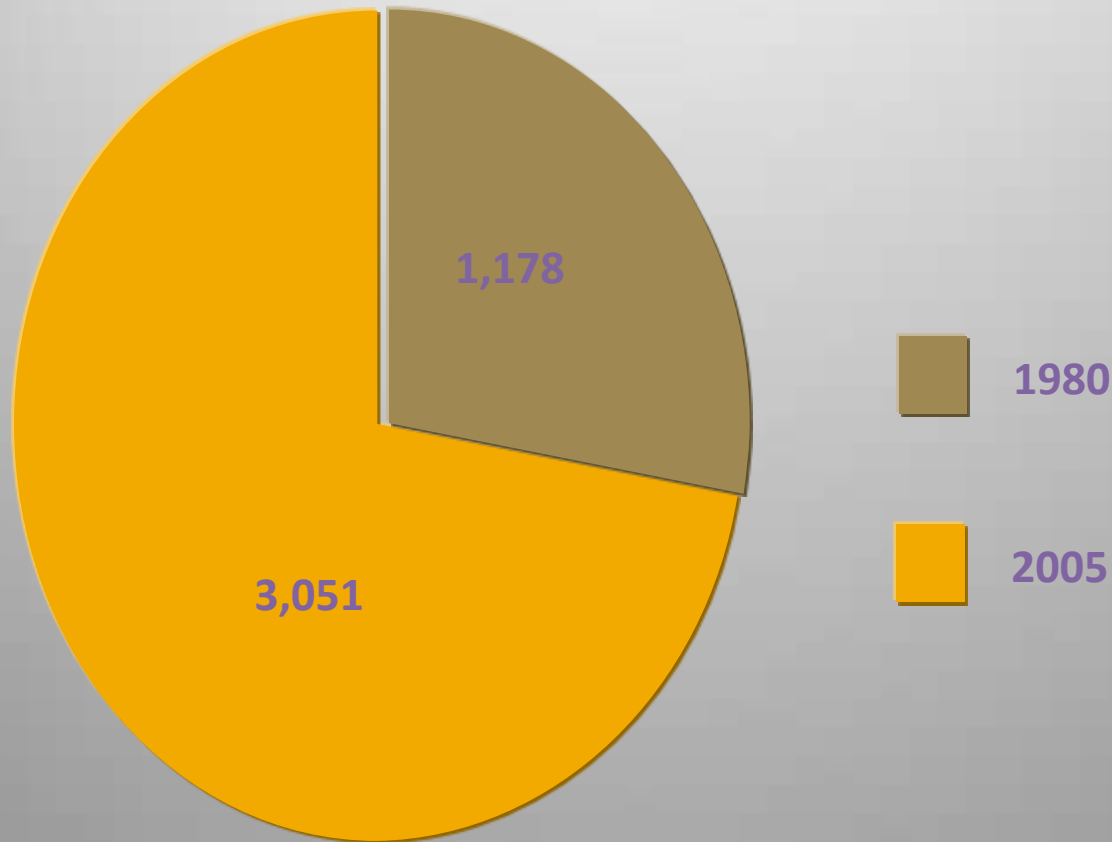
**1% of the people have
been crossing poverty line
each year for 25 years**

Equals ~ 200m



Per capita income gains

US\$ ppp





Drivers of growth

India

- Domestic
- Services
- Consumption
- High tech, capital intensive industry

East and S.E. Asia

- Exports
- Manufacturing
- Investment
- Low tech, labour intensive industry

Implications of India model

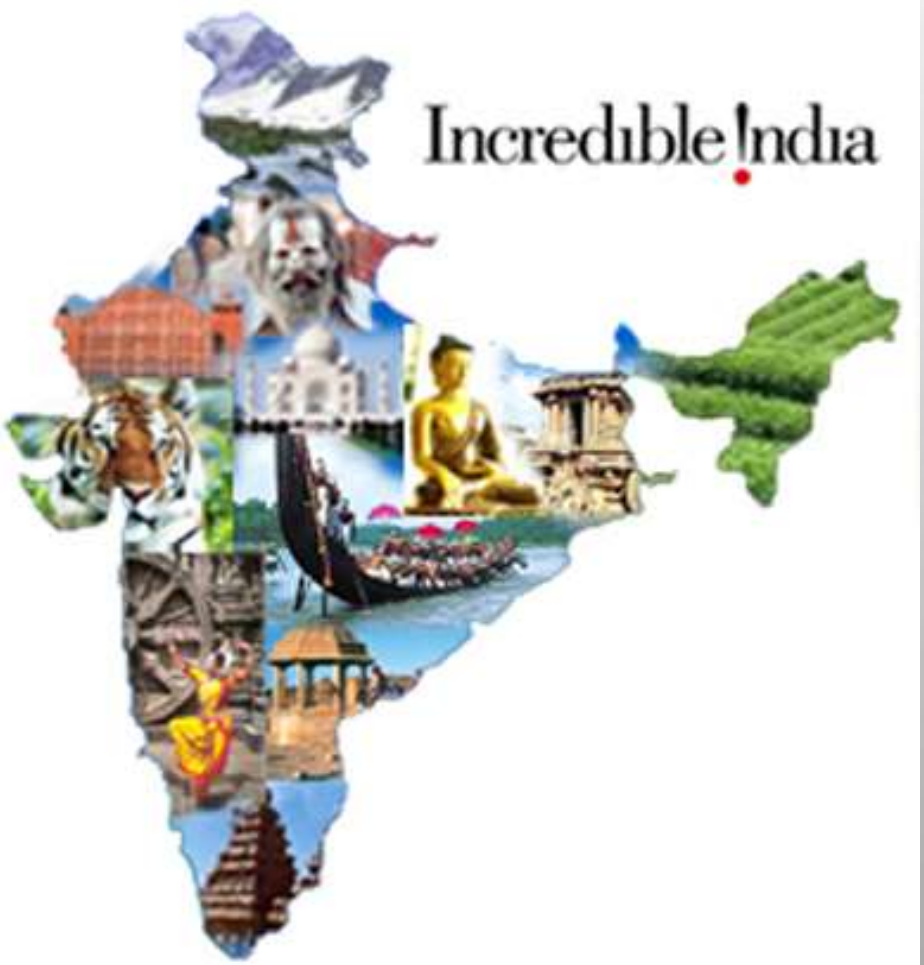


‘Domestically led’ means:

- Insulation from global downturn
- Less volatility
- We will come out of the global c faster



WELCOME TO INDIAN RAILWAY



Incredible India





Railway Journey

- Steam engine designed by James Watt
- 27th. Sept. 1825 the first run of railways from Darlington to Stockton having 38 wagons 600 passengers and 50 tonnes freight
- In US in 1833; in Germany in 1835, In India in **1853**





Administrative Set Up

MINISTRY OF RAILWAYS (MOR)

RAILWAY BOARD (CRB & 6 Members)

ZONAL RAILWAYS (17 Zones)

DIVISIONS (68 Divisions)



Network zones

| Zones / Headquarters | Route kms. | Zones / Headquarters | Route kms. |
|---|-----------------------|---------------------------------|-----------------------|
| Central, Mumbai | 3,849 | North Western, Jaipur | 5,275 |
| Eastern, Kolkata | 2,414 | Southern, Chennai | 5,169 |
| East Central, Hajipur | 3,465 | South Central, Secunderabad | 5,734 |
| East Coast, Bhubaneshwar | 2,568 | South Eastern, Kolkata | 2,639 |
| Northern, New Delhi | 6,859 | South East Central, Bilaspur | 2,440 |
| North Central, Allahabad | 3,078 | South Western, Hubli | 3,106 |
| North Eastern, Gorakhpur | 3,447 | Western, Mumbai | 6,509 |
| Northeast Frontier, Maligaon, (Guwahati) | 3,757 | West Central, Jabalpur | 2,965 |

Branches in a Division



| | |
|---------------------------------|--|
| Operating | Civil Engg |
| Commercial | Mechanical Engg C&W |
| Safety | Mechanical Engg Loco |
| Accounts | Electrical Engg Train Operations |
| Personnel | Electrical Engg Traction Distribtn |
| Railway Protection Force | Mech./Electrical Engg Maintenance |
| Medical | Signal & Telecom |
| | Stores |



Other Units

- **PRODUCTION UNITS** for manufacturing locos, coaches, wagons etc either wholly owned or in collaboration
- **PUBLIC SECTOR UNDERTAKINGS** for specialized areas of working like Construction, Consultancy, Tourism or Container business
- **Research Wing and Training Institutes**

Vision 2020



- Indian Railways shall provide efficient , **customer-focused** and environmentally sustainable **integrated** transportation solutions.
- It shall be a vehicle of sustainable growth, connecting regions, communities, ports and centers of industry, commerce, tourism and pilgrimage across the country.
- The reach and access of its services will be continuously expanded and improved by its **integrated team** of committed, empowered and **satisfied** employees and by use of cutting-edge technology

Nation's Development (GDP)



| | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 (1 st RE) |
|---|------------|------------|------------|------------|---------------------------------|
| Overall Transport | 6.6 | 6.6 | 6.5 | 6.6 | 6.7 |
| <i>of which</i> | | | | | |
| Railways | 1.0 | 1.0 | 1.0 | 1.0 | 0.9 |
| Road Transport | 4.7 | 4.7 | 4.6 | 4.8 | 4.9 |
| Water Transport | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Air Transport | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 |
| Services incidental to transport | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |

INTRODUCTION



Runs 21,000 trains
daily

14,000 trains for 23
million passengers
per day, 8,000
stations

It is equivalent to
moving the entire
population of
Australia.

10K locos, 254K
wagons and 64K
coaches

3.5 million tonnes of
freight

65K route, Is more
than one and half
times the
circumference of the
earth

Select club of
countries, Billion
Tonne Club

Indian Railways carried 1.05 billion tonnes of
revenue earning freight traffic and carried 1.2
billion tonnes in 2015-16



SIGNIFICANCE OF IR

Significance of IR

IR transports highest passenger throughput in the world.

Agriculture
IR carries around 87% of fertilizer

Mining IR carries around 82% of iron & other ores

Power IR carries around 90% of the coal produced in India



IR-CONNECTING INDIA

WE CONNECT IN MORE WAYS THAN ONE

- CONNECTING GEOGRAPHICALLY
- CONNECTING BY ENABLING
- BY REPAYING THE SOCIAL DEBT

IN ENVIRONMENTALLY
SUSTAINABLE WAYS



Growth since independence



| ITEM | 1950-51 | 2013-14 | %VARIATION |
|---------------------------------------|----------|-----------|------------|
| Double and multiple route length(Kms) | 5127 | 19,887 | 289% |
| Running track Kms(all Gauges) | 59,315 | 89,987 | 52% |
| Freight carried(Million Tonnes) | 73 | 1054 | 1344% |
| Passenger Kms(Millions) | 66,517 | 11,58,742 | 1642% |
| Passengers Originating(In Millions) | 1,284 | 8,420 | 556% |
| Seat/berth capacity(suburban) | 87,986 | 15,28,124 | 1637% |
| Seat/Berth Capacity(non Suburban) | 8,54,678 | 36,43,423 | 327% |
| Wagon capacity(Million Tonnes) | 4.14 | 13.65 | 230% |
| Wagon Turn around(Days) | 11 | 5.13 | (-)54% |

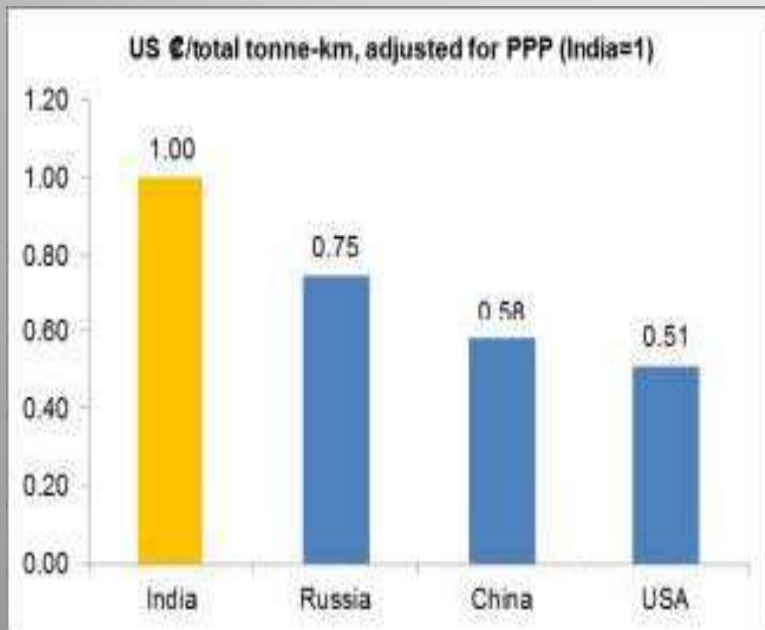


CORE SECTOR

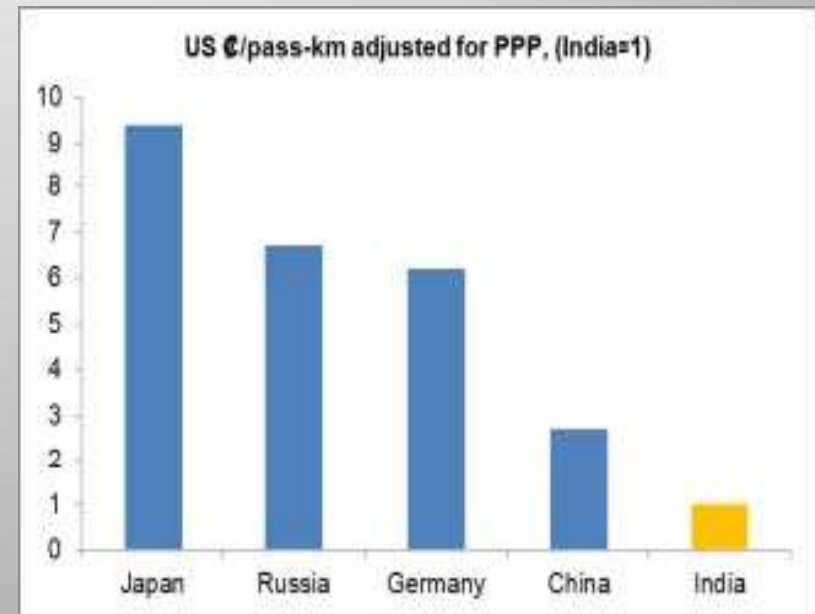
- Coal
- Power
- Steel
- Cement
- Fertilizer
- Crude
- Refinery Products
- Natural Gas



Rate/Tonne-km, India's Rate Is Highest

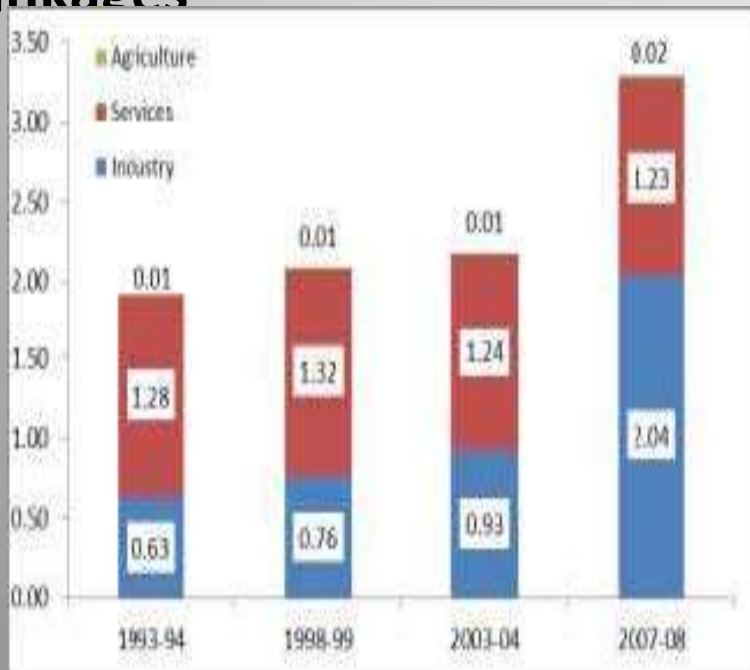


and Its Passenger Fares Are the Lowest





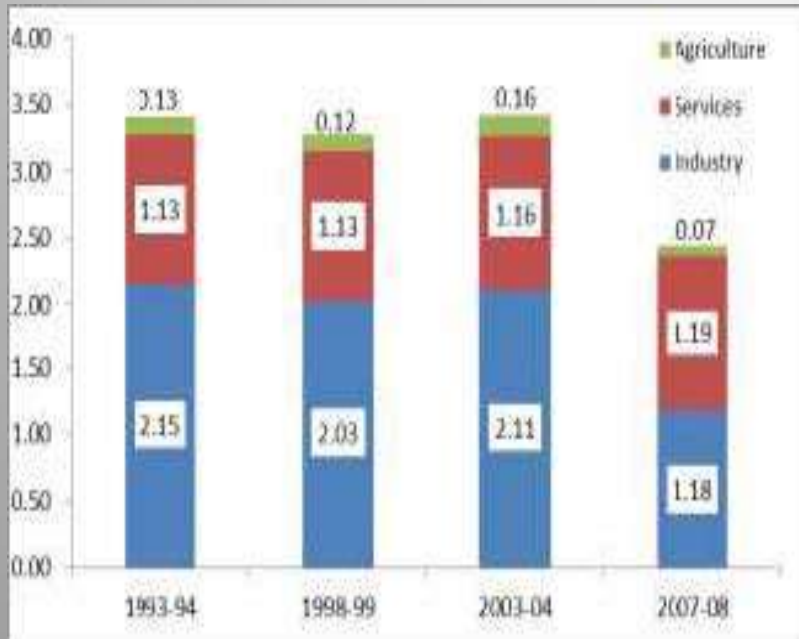
Indian Rail – Backward Linkages



- Spending on railways would result in a significant demand creation particularly in commodity sectors such as iron and steel and also for rail linked services like engineering



Indian Rail – Forward Linkages



- The economic survey 2014-15 showed strong backward linkage(demand pull from the sectors) with both the manufacturing and services sector with a Rs1 increase in railway output leading to an increase in output in the economy by Rs 3.3

Even without assuming a boost, combining the forward and backward linkage effects suggests a very large multiplier (5+) of the investment in Railways



IR and The World

- Fourth largest network after USA, Russia and China
- Topmost passenger carrier and fourth largest freight carrier in the world after USA, Russia and China.
- 9th largest commercial employer





Heritage Buildings

**Chatrapati Shivaji Terminus
Mumbai-UNESCO**



Lucknow Railway station



Marvels of Engineering



Pamban Bridge



Chenab bridge



Heritage Railways



Rack and pinion railway NMR

KVR





Railways and Films

- The trains keep going, the films keep rolling and we watch in fascination as our lives play out on the parallel tracks that meet somewhere in the distance, somewhere out at infinity

-Jerry Pinto



New Initiatives and way forward





IRCTC

INDIA'S ONLINE RAILWAY TICKET VENDING SERVICE



SERVER BANDWIDTH OF
775Mbps - 1Gbps

FACEBOOK BANDWIDTH IS
800 times IRCTC'S



ON AN AVERAGE
4,32,826
TICKETS
PER DAY ARE ISSUED



TICKETS ISSUED PER YEAR

2010-11

9,69,11,000

2011-12

11,61,77,000

2012-13

14,06,88,000

2013-14

15,79,81,713



ANY TIME
1,20,000
USERS CAN ACCESS
THE SITE



CAPACITY TO ISSUE
7200 TICKETS
PER MINUTE

SOURCE : INFORMATION PRESENTED HERE IS OBTAINED USING RIGHT TO INFORMATION



Train Status



Spot Your Train

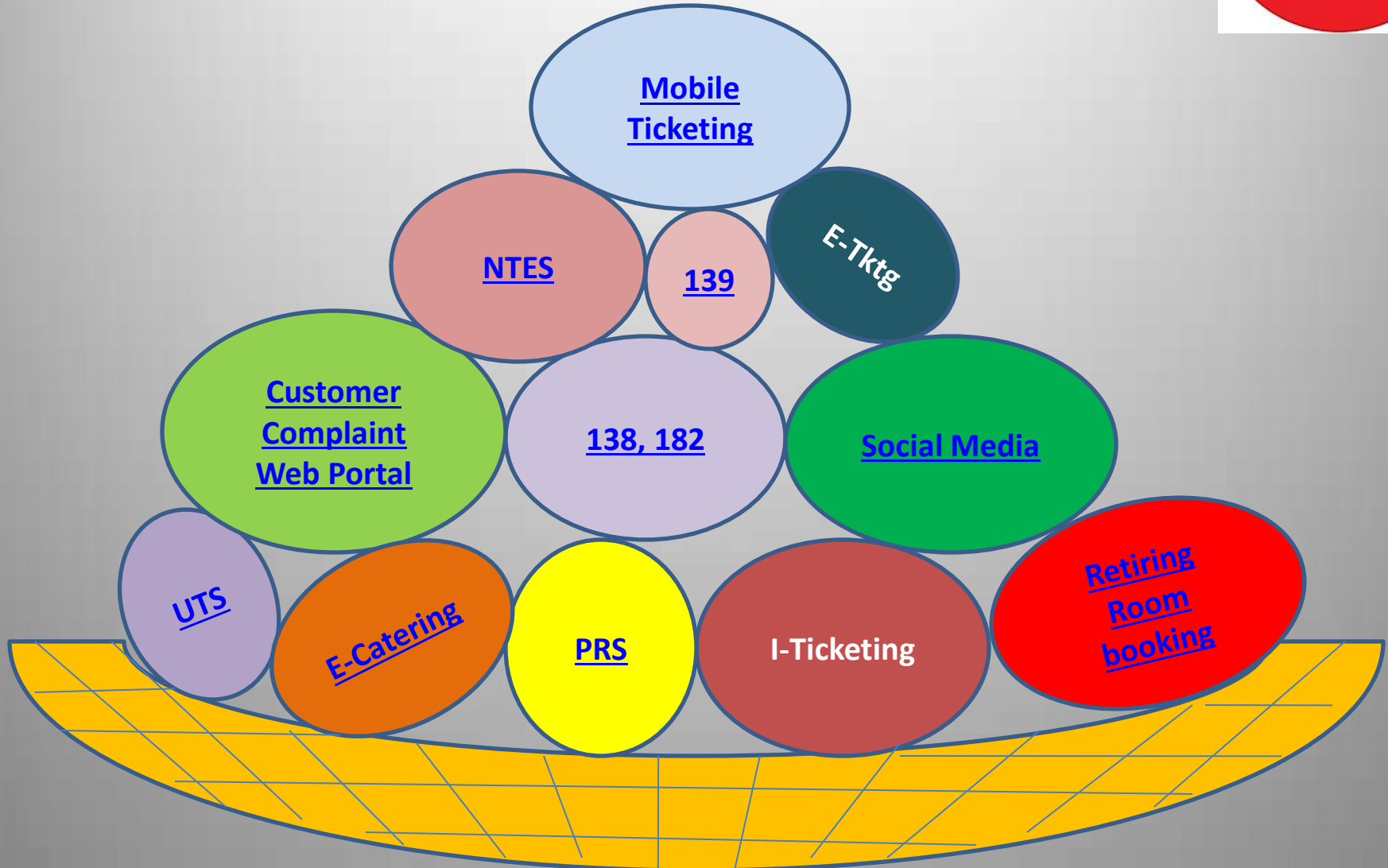
BCT > 12903 > ASR
GOLDEN TEMPLE MAIL

| | HAZRAT NIZAMUDDIN-NZM | 12-Oct | PF+1 |
|-------------|-----------------------|--------------|--------|
| A | Scheduled | 18:45 | 12-Oct |
| R | Act./Exp. | 18:45 | 12-Oct |
| R | Delay | No Delay | |
| D | Scheduled | 19:15 | 12-Oct |
| E | Act./Exp. | 19:15 | 12-Oct |
| P | Delay | No Delay | |
| Last Update | | 10:29 12-Oct | |

Departed from RAVTHA ROAD at 10:30 12-Oct-2014
492 Kms. to go.

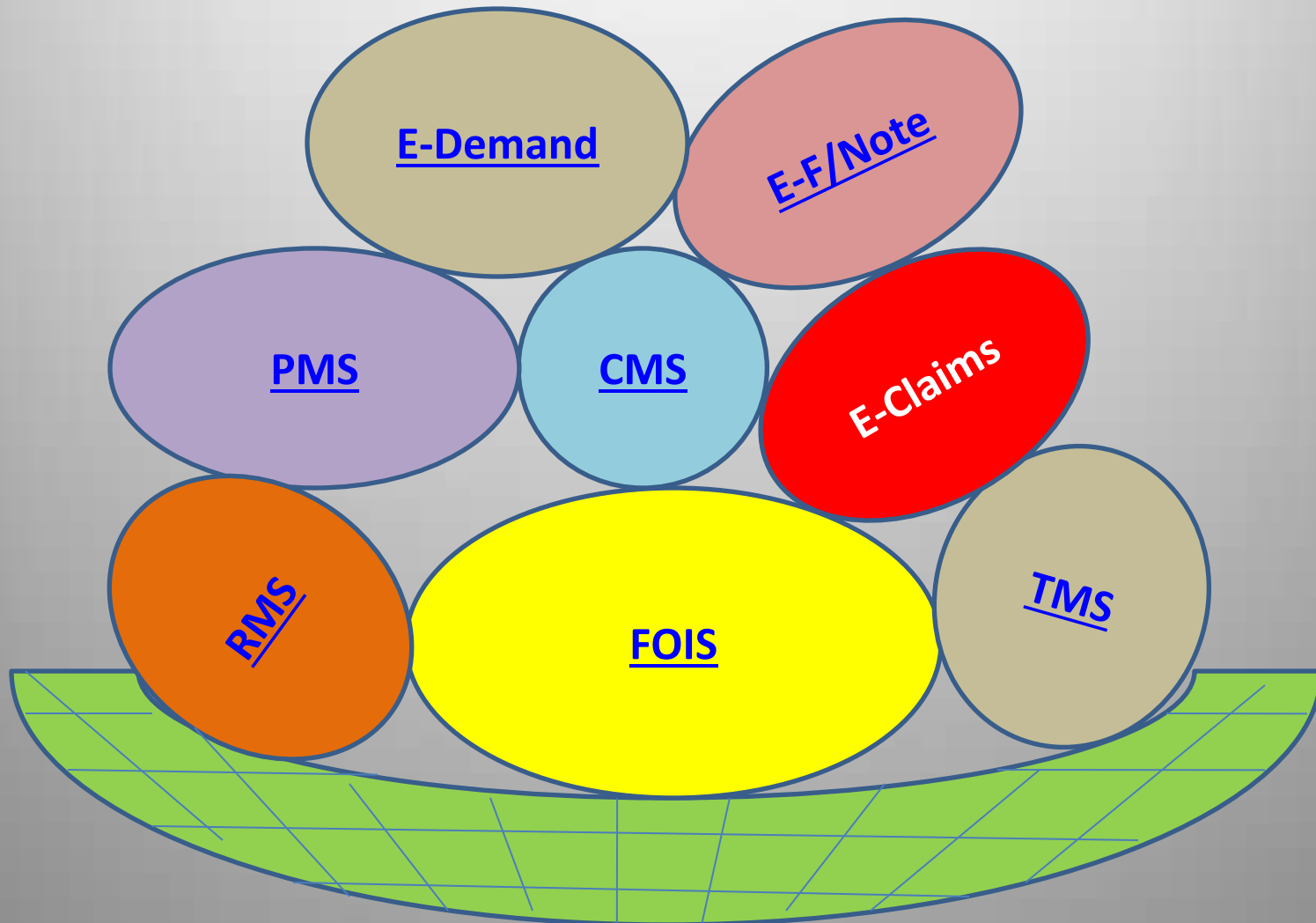


IT Basket for Passenger Business



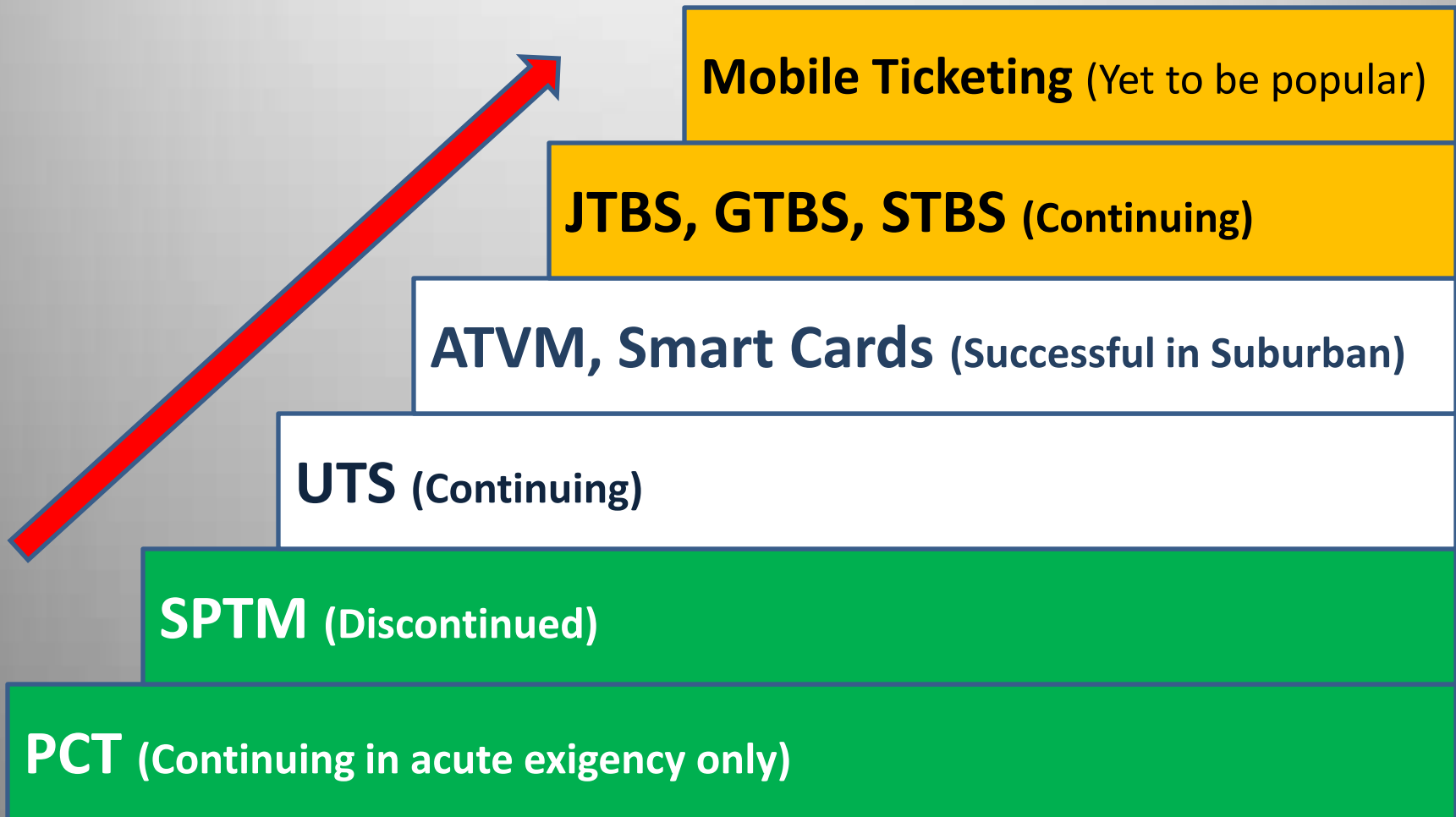


IT Basket for Freight/Parcel Business



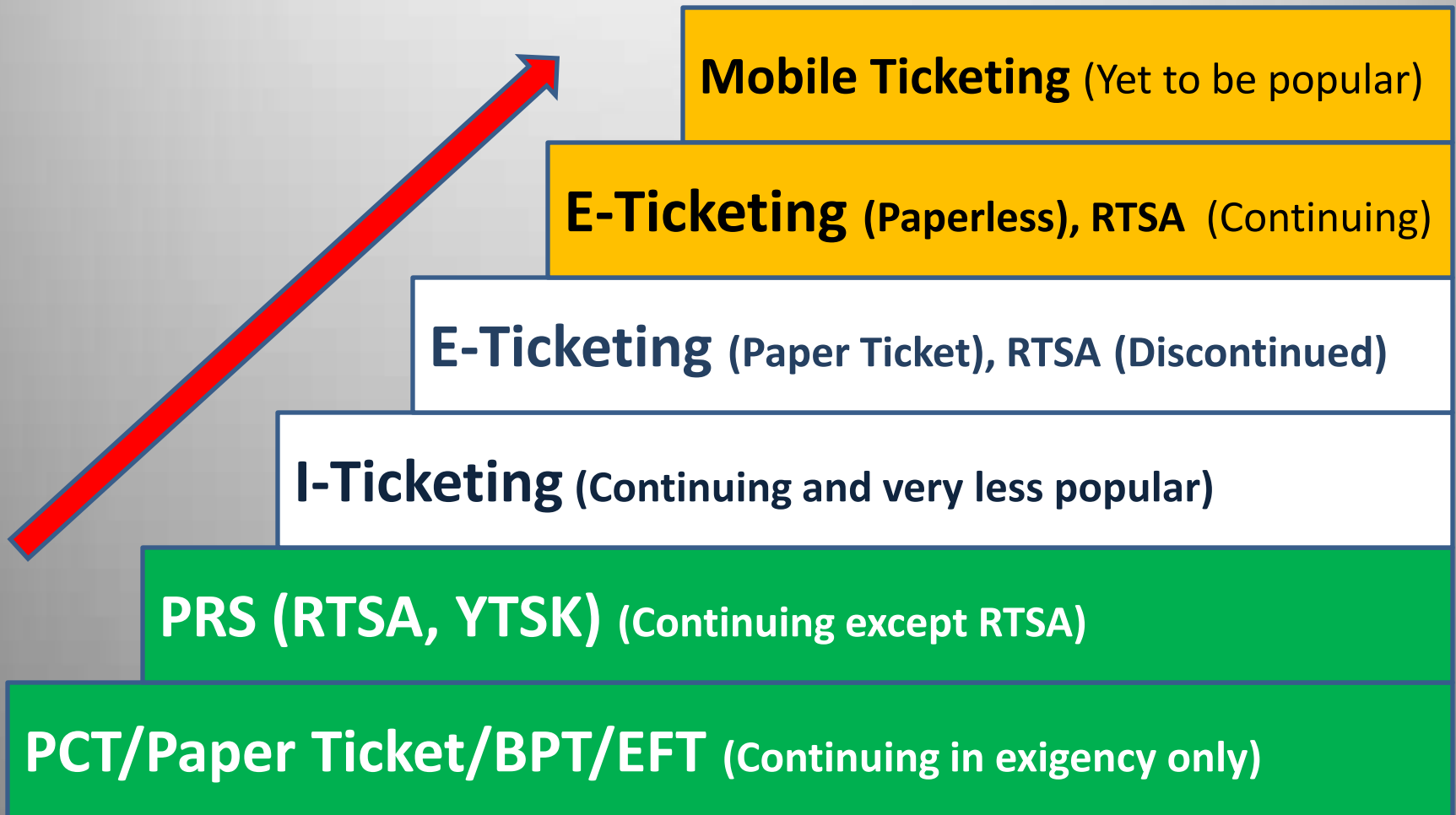


Unreserved Ticket Booking: A Journey





Reserved Ticket Booking: A Journey

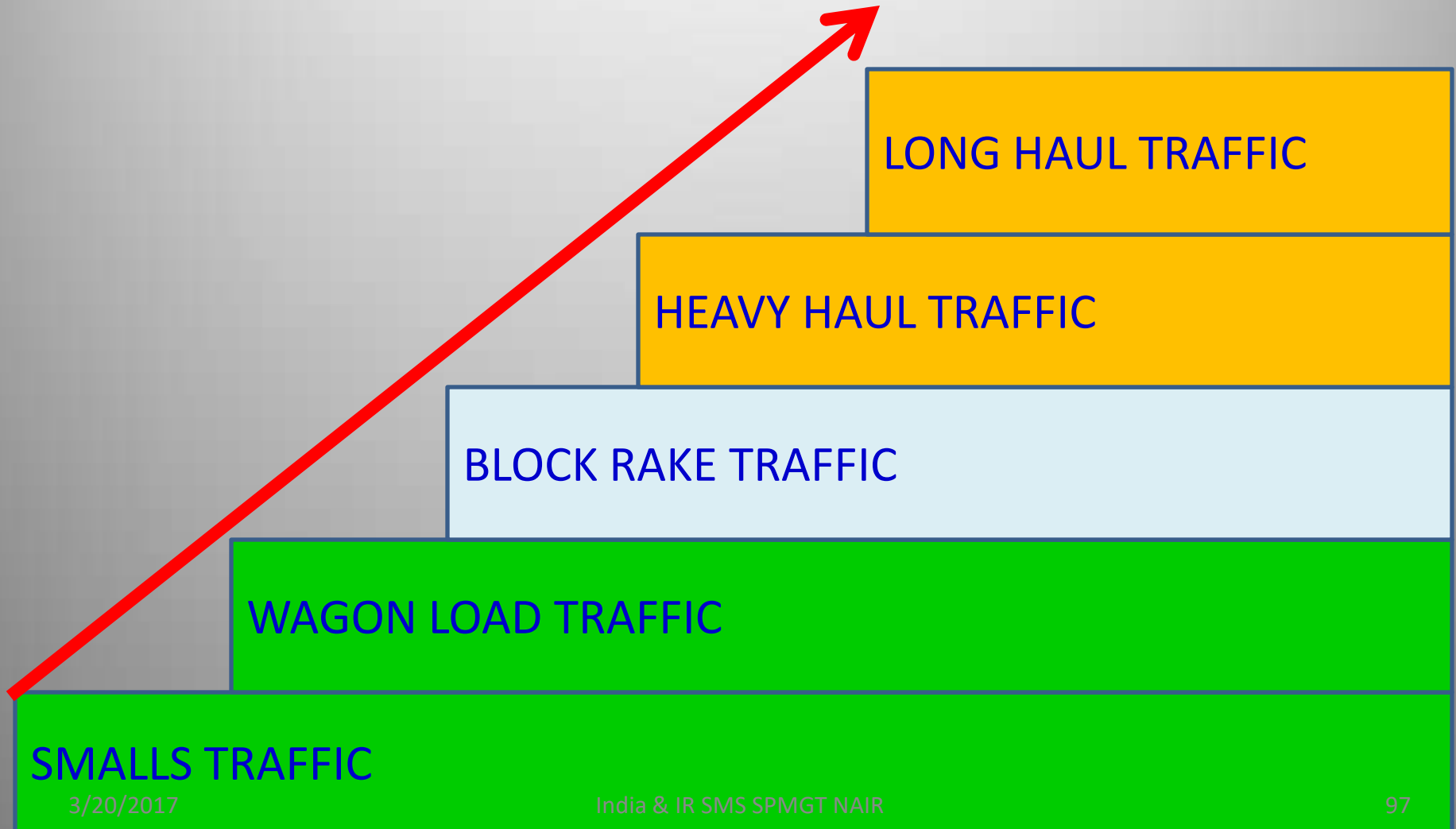


Improvements in Train Operations

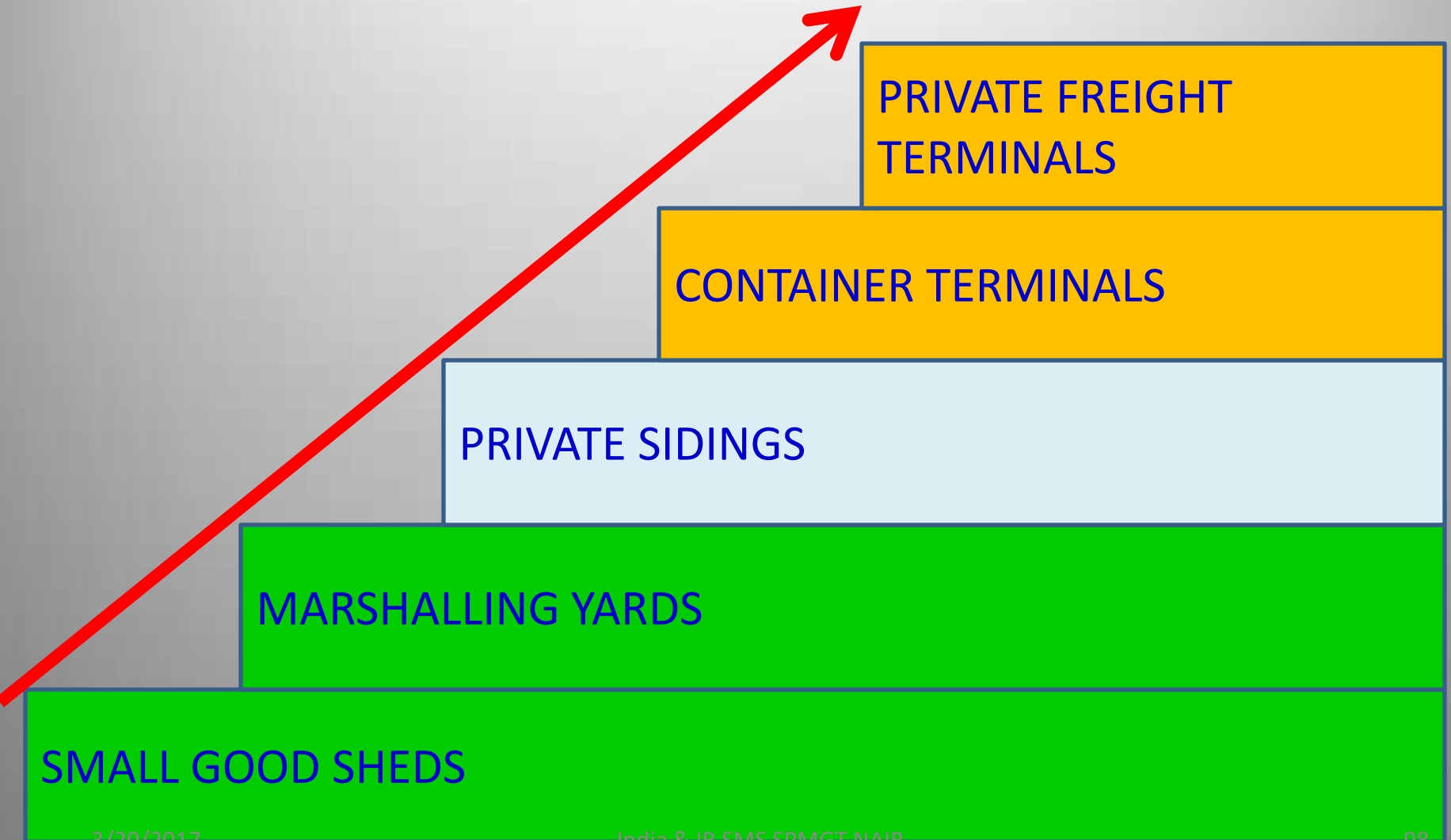




IMPROVEMENT IN UNIT LOAD



PATTERN OF OPERATIONS





CONTROL OFFICE APPLICATION

Control Office Application has computerized the manual functions of section controllers like..

Train Ordering

Maintain Train Information

Manage Train Movement (Abnormal Working, Stabling, Banker Movement)

Report Unusual Occurrences.

Management of Maintenance Blocks

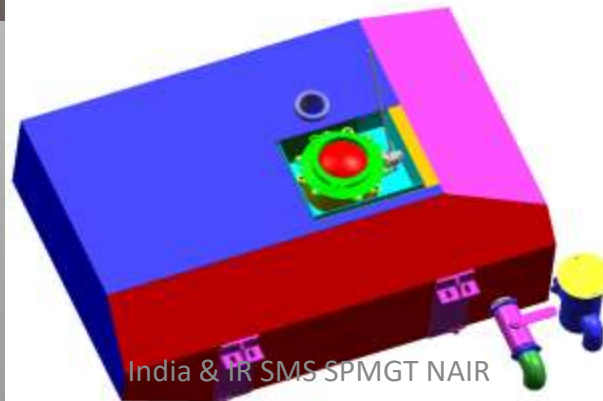
Caution Orders



ENHANCING PASSENGER COMFORT AC DD COACH



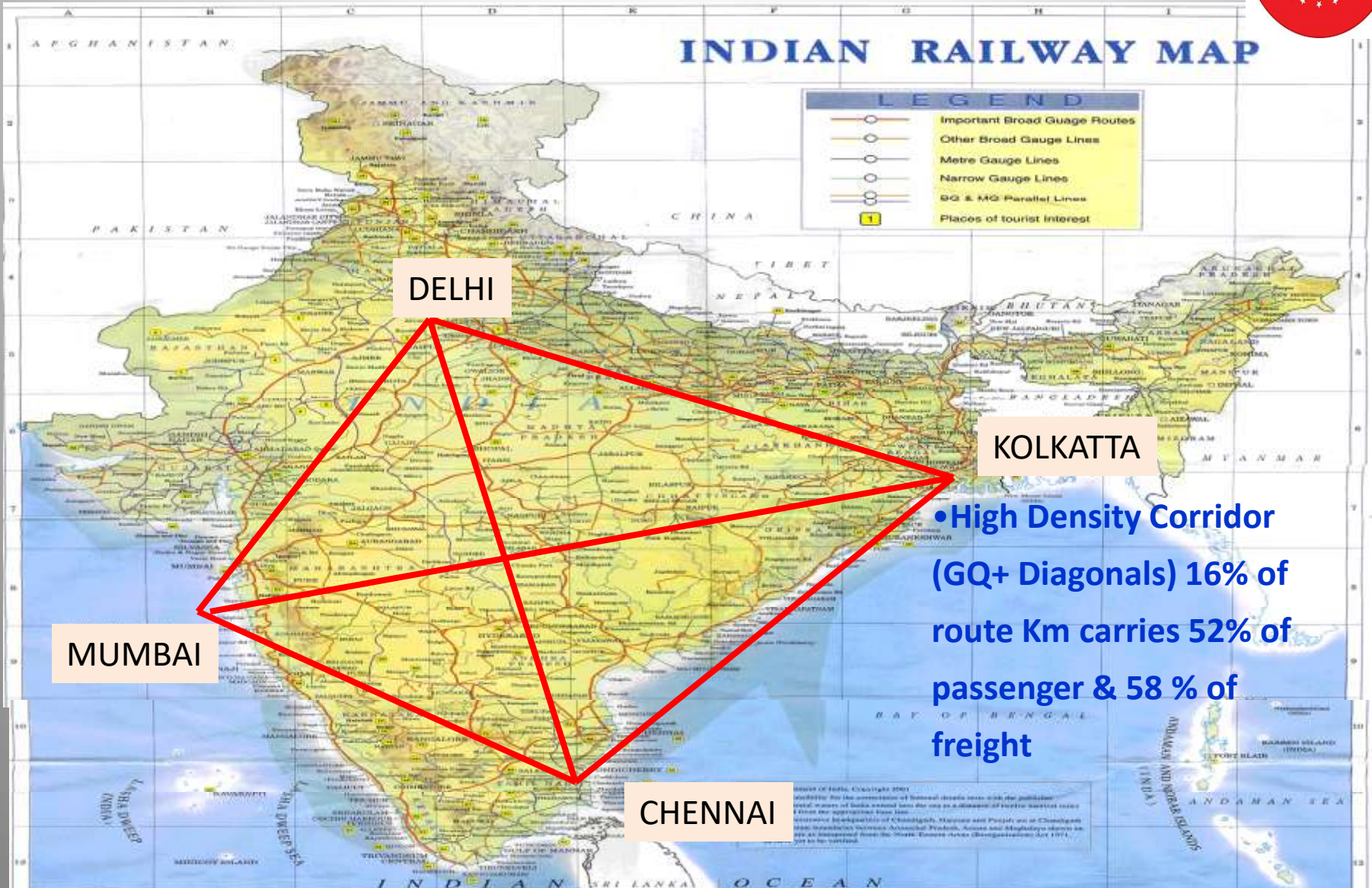
ENVIRONMENTAL FRIENDLY TOILETS





THE FUTURE

GOLDEN QUADRILATERAL & ITS DIAGONALS ARE BUSIEST ROUTES OF



CONCEPT PLAN OF DEDICATED FREIGHT CORRIDOR NETWORK



Converging Industrial corridors



Upgrading HIGH-SPEED PASSENGER CORRIDORS



- AHMEDABAD-MUMBAI-PUNE
- DELHI-CHANDIGARH-AMRITSAR
- HOWRAH-HALDIA
- HYDERABAD-VIJAYAWADA-CHENNAI
- CHENNAI-BENGALURU-ERNAKULAM
- DELHI-AGRA-LUCKNOW-VARANASI-PATNA

IR and the World



TRANS-ASIAN RAILWAY NETW





Thank you. Any ?'s