



Water sector in India

December 2015

| Market Entry | Partnerships | Growth

ValuePrismConsulting

India - An Overview

Demographic Profile

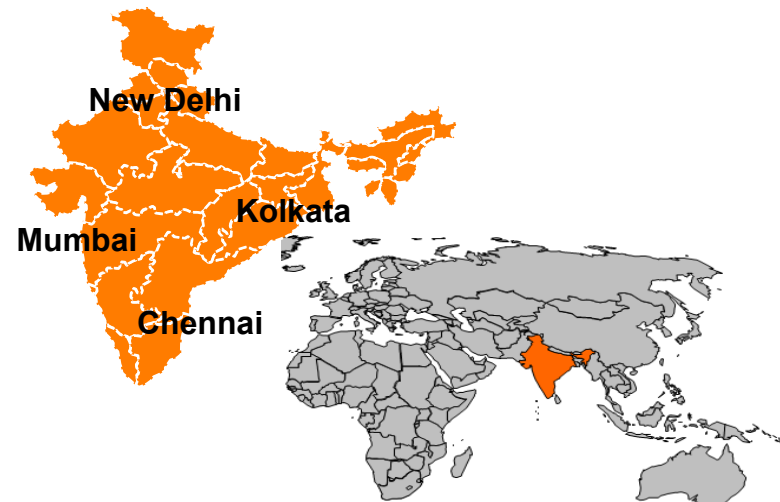
Population: 1.2 billion

Population Growth Rate: 1.28 %

Religions: Hinduism, Islam, Christianity, Sikhism, Buddhism, Jainism

Languages: 18 Official Languages

Literacy: Total population: 74.04 per cent



Political Profile

Political System: Democracy (Largest)

Head Of State: President

Head Of Government: Prime Minister

Administrative Divisions: 29 States and 7 Union Territories

Geographical Profile

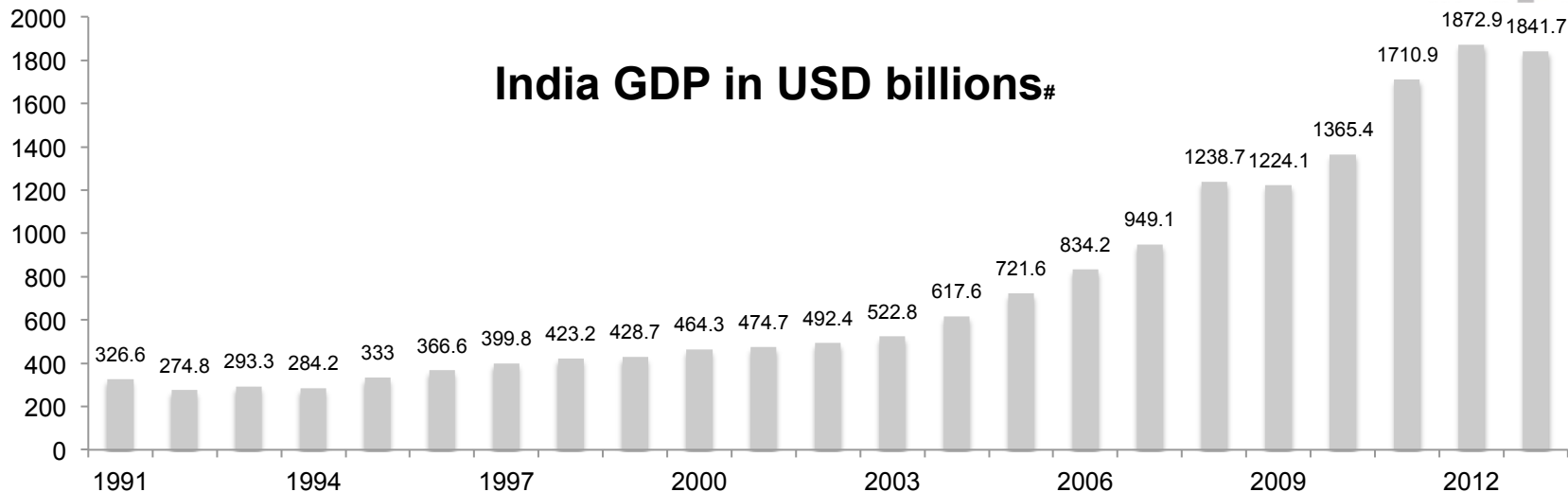
Land : 3.3 million sq km (2.4% of the world's total area)

Water: 314,070 sq km (4% of the world's fresh water)

Coastline: 7510 km

Natural Resources: Coal (4th largest reserves in the world), iron ore, manganese, bauxite, and chromium

7th **Largest** Country with **1/6th** of the World Population



USD 1.8 Trillion Economy in 23 years of Open Economic Policy

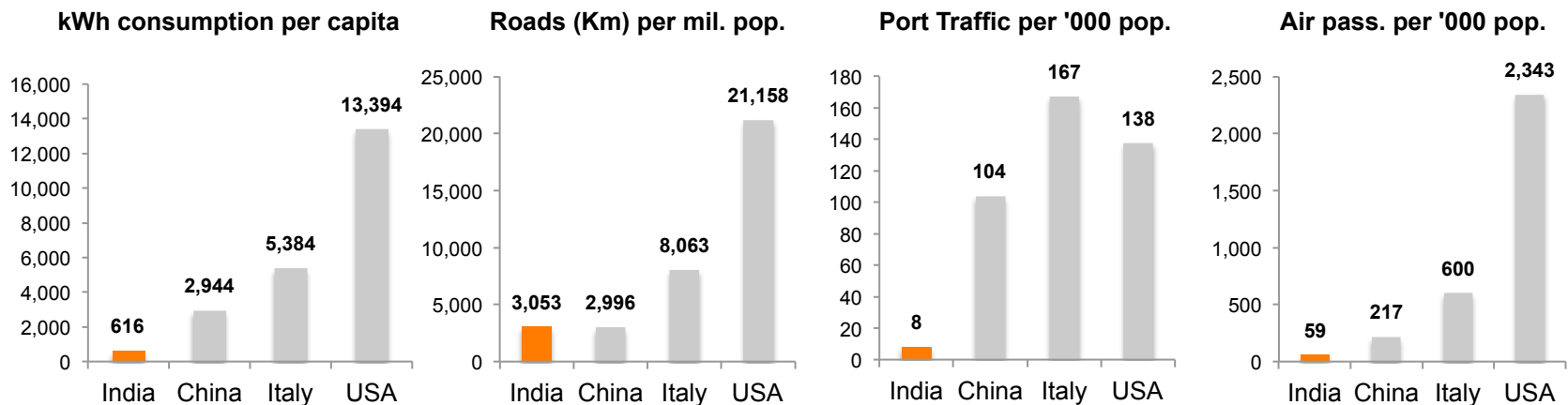
- In spite of the global economic crisis, between FY 2008-09 and 2012-13, GDP grew at an average annual growth rate of 7.9%
- The Indian economy is expected to witness a rebound in 2014-15, helped by an easing of supply side bottlenecks, strengthening of exports and private investment, in turn providing the required boost to growth
- Current account deficit is a key priority of Government; export stimulating measures and other balancing alternatives are being evaluated and implemented continuously
- India has a healthy buffer of foreign reserves to counter possible trade deficits or currency depreciation
- In spite of Government subsidies and significant spending on social programs, combined total liabilities of state and centre as a percentage of GDP at lowest level since FY 1985-86 (62.27%)

3rd Largest Economy in Asia after China and Japan

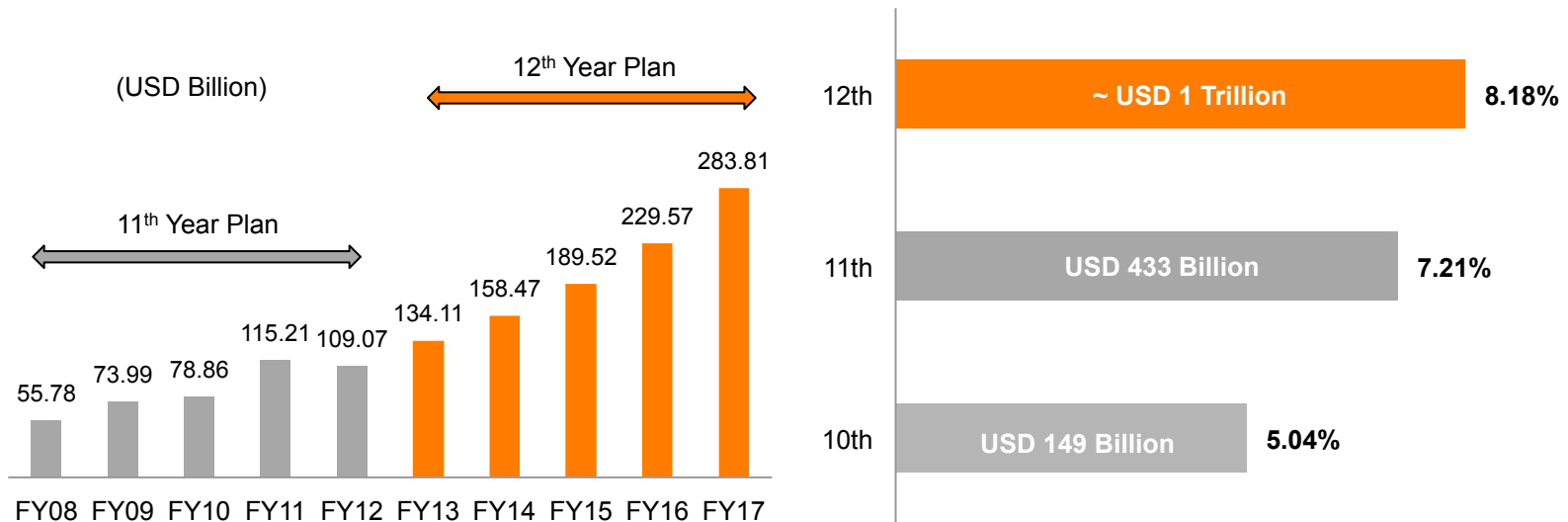
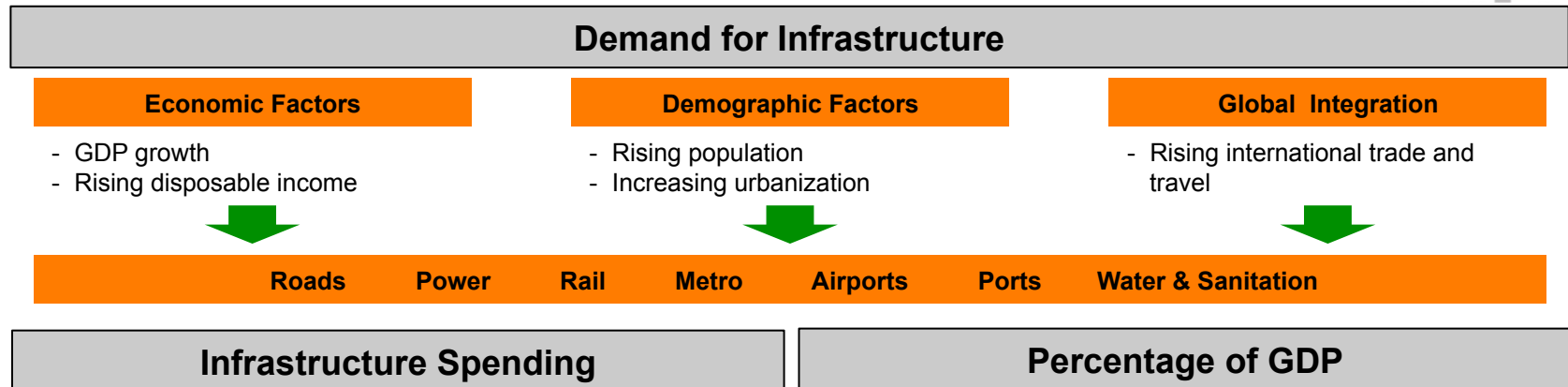
Current Infrastructure Status

Installed Power Generation Capacity (GW)	234	4th largest installed power capacity
Rail Lines; Total route (Km)	64,600	3rd largest rail network
Roads; Total Network (Km)	3,790,344	2nd largest road network
Air Transport, passengers carries	73,173,381	8th largest air transport, passengers
Container port traffic (TEU: 20 ft. equivalent units)	9,983,940	11th largest container port traffic

Yet.... Infrastructure Deficit



Better Infrastructure Required To Sustain Growth

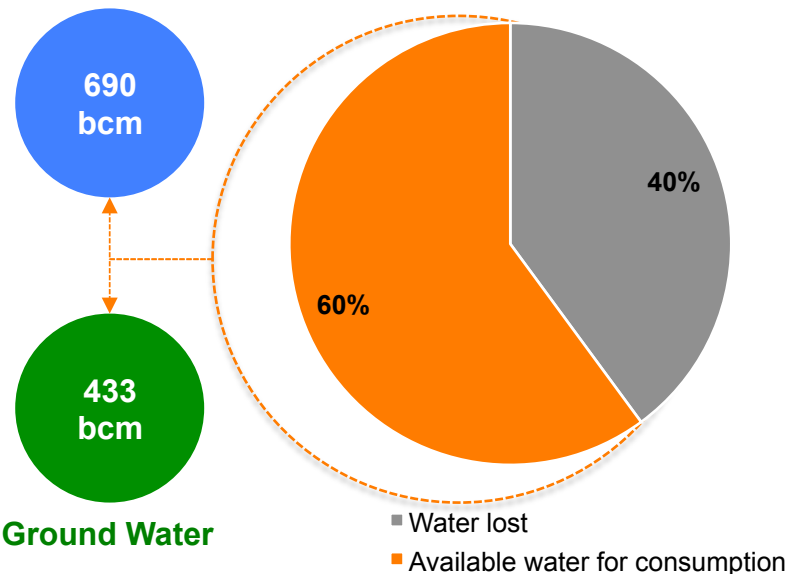


Allocation of **€ 5.51 Billion** (hike of 675 % over the 11th plan) for **sanitation**
&
€ 15.32 Billion (hike of 312% over the 11th plan) for **drinking water** in the 12th Plan

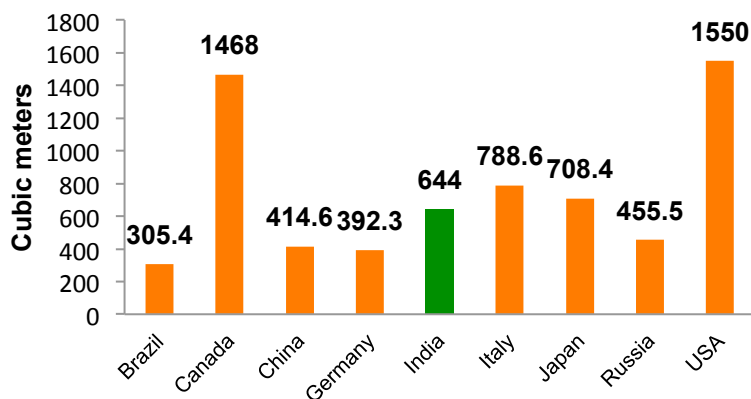
India could face a turbulent water future

- India with 16% of world population has only 4% of fresh water resources at its disposal
- Lack of efficient infrastructure leading to increasing problems of water availability
- India's per capita water usage is relatively low compared to developed countries. However with growing urban population and industrialization, the demand is set to increase drastically.
- With rising consumption, deteriorating water quality and inadequate governance, India likely to face a water shortage by 2050

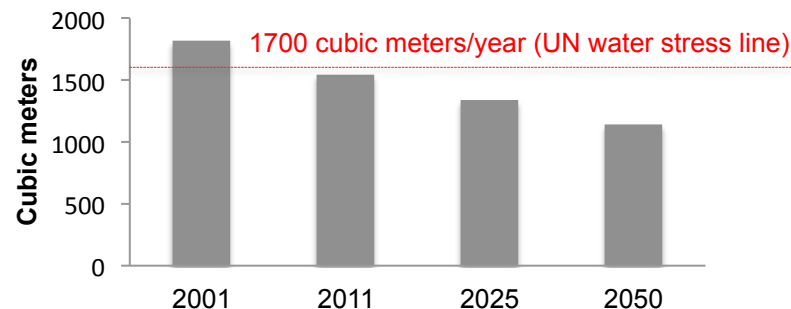
Surface Water



Annual per capita water usage



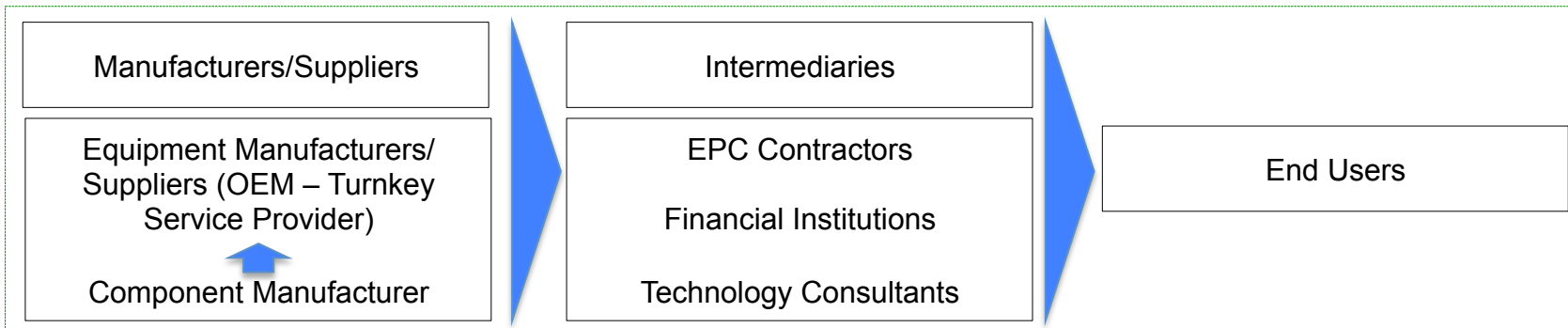
Annual per capita average water availability



Government committed to invest in better **conservation & management** of water

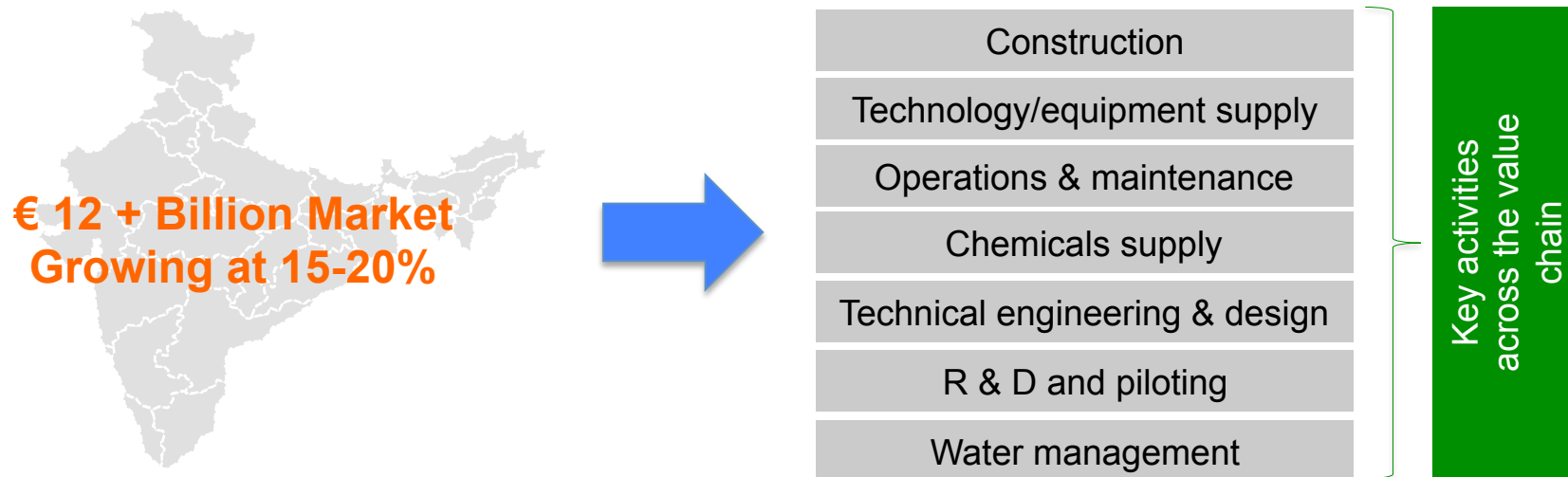
Sector well structured to grow faster than ever

Indian Water Market Stakeholders & Value Chain



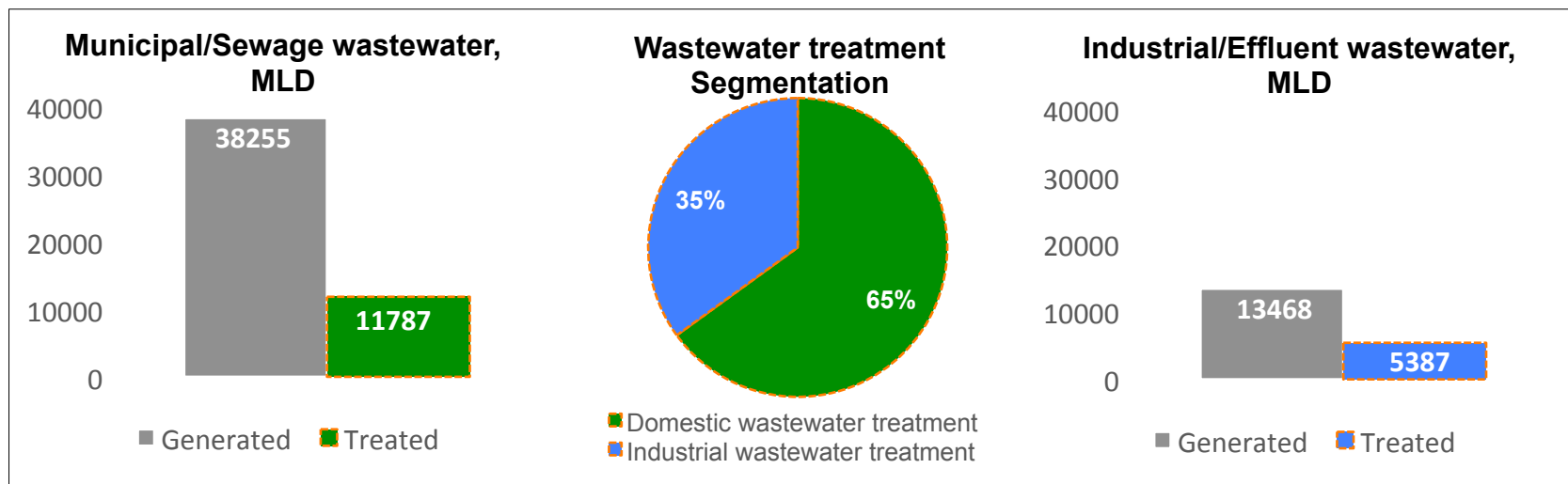
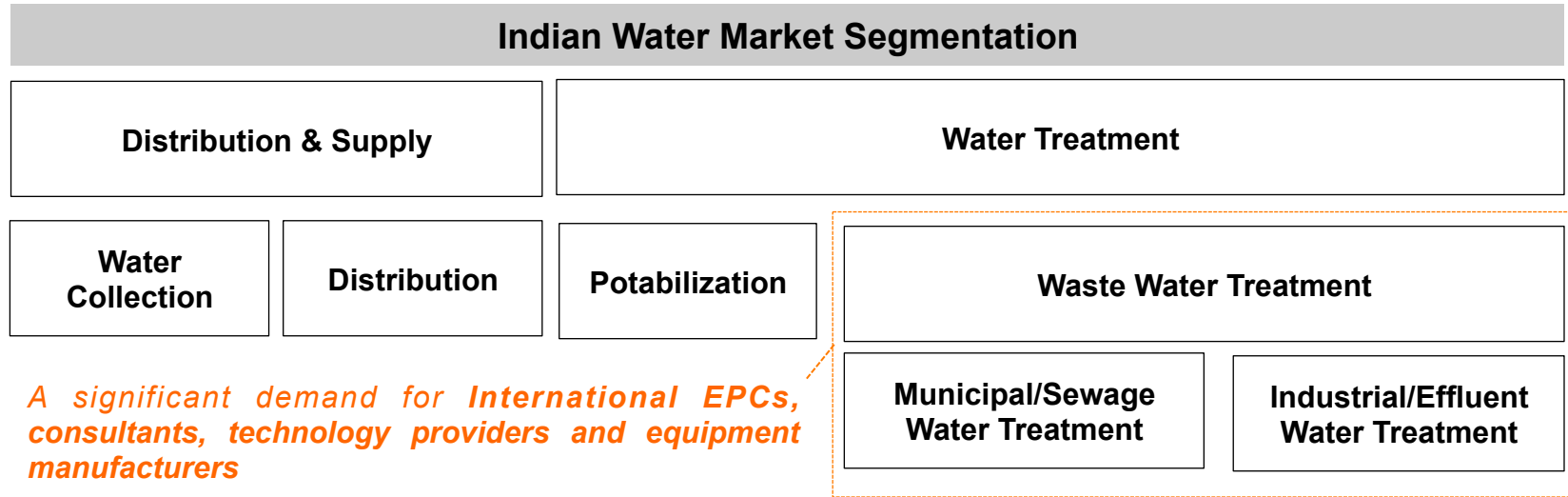
Main Government Regulatory Body: Pollution Control Board (PCB)

Indian Water Market Value



Indian water sector is expected to be worth about **€ 130bn** by 2030

Water treatment is the main focus area

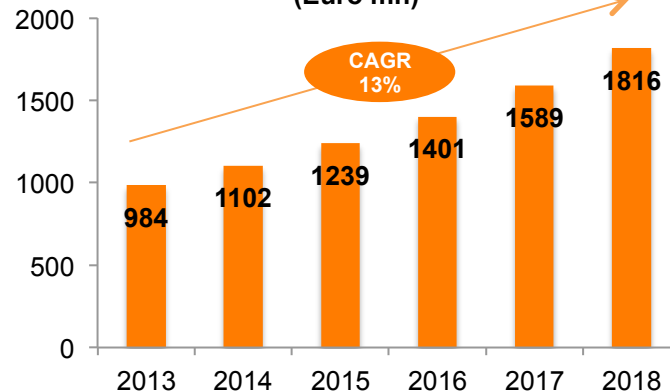


Lack of **advanced technology knowhow** is the main **bottleneck** to growth

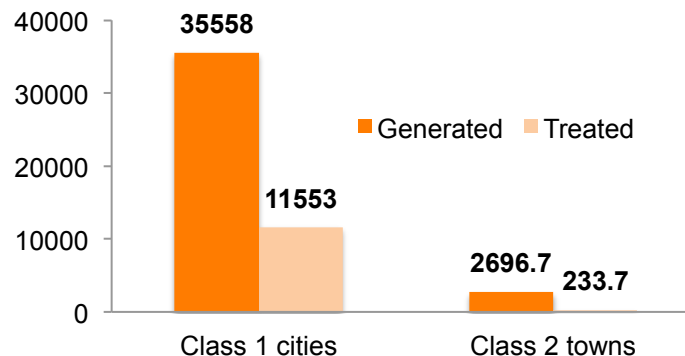
Potential in Municipal/Sewage Water treatment

- In 2013, Indian sewage treatment industry was estimated to be worth **€ 984 million** expected to grow at a **CAGR of 13%** during 2013-18.
- India has a treatment capacity of 35% of the total sewage generated. However **only around 30% of the sewage is treated**.
- Large cities in India are treating only 30-40% of their wastewater due to operational inefficiencies in the sewage lines and in the treatment plants.
- Smaller cities/towns treat only 8% of the wastewater.
- Delhi and Mumbai have the highest STP capacities among the Indian cities with 2330 MLD and 2130 MLD respectively.
- More than **118 towns** are identified for extending sewerage infrastructure including wastewater treatment and solid waste management as a part of total sanitation with an **investment of € 570 Mn**.
- Overall **only 15% of the population** is covered by the sewage system.
- **100 % FDI** has been **allowed** to undertake wastewater treatment plants, the Indian government has undertake number of projects under PPP mode.

Market Size - Sewage treatment industry (Euro mn)



Sewage generation split (MLD)

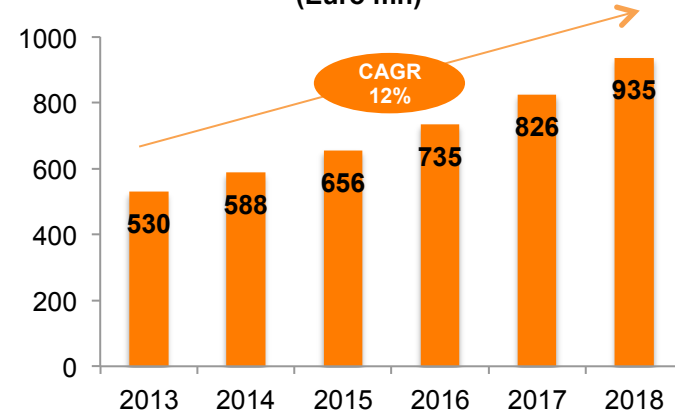


- 498 Class I cities (with population over 100,000) accounts for 93% of the urban sewage generated in the country

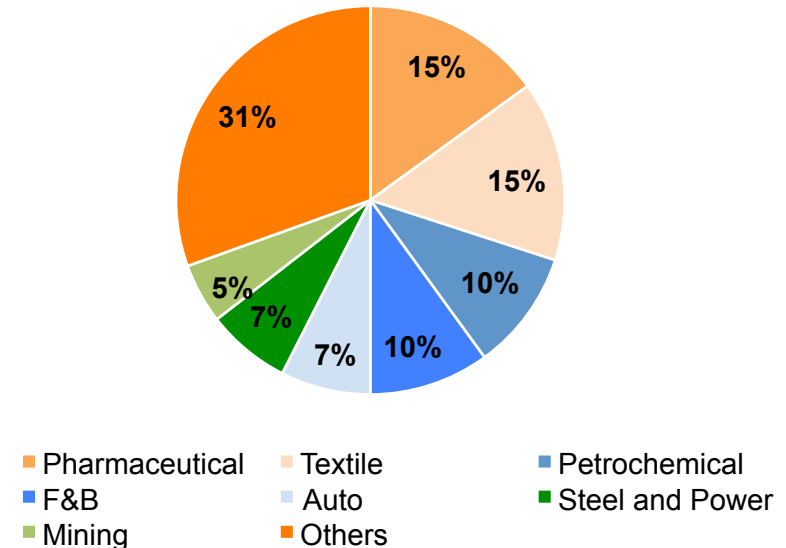
Potential in Effluent Water Treatment

- In 2013, Indian effluent treatment industry's total market size was **€ 530 million** and is expected to grow at a **CAGR of 12%** during 2013-18.
- It is estimated that only around **40% of the industrial effluent is treated**.
- The percentage share of industrial/effluent water treatment business in the overall wastewater treatment is 35%.
- There are about 3 million micro, small scale and medium enterprises (MSMEs) in India.
- Due to lack of technical and financial resources of MSMEs to implement effluent treatment, the govt. of India supports the setting up of Common Effluent Treatment Plants (CETPs).
- The central govt. and state govt. funds 50% and 25% of the capital cost respectively. The remainder is shared by the industries in the vicinity.
- Currently there are 88 CETPs with a total capacity of 560 MLD caters to more than 10,000 industries across India.
- Due to strict govt. policies and regulations, many industries are **mandated to install zero liquid discharge treatment**.
- **Textile and pharma** sectors contribute 30% of the effluent treatment industry.

Market size - Effluent treatment industry (Euro mn)



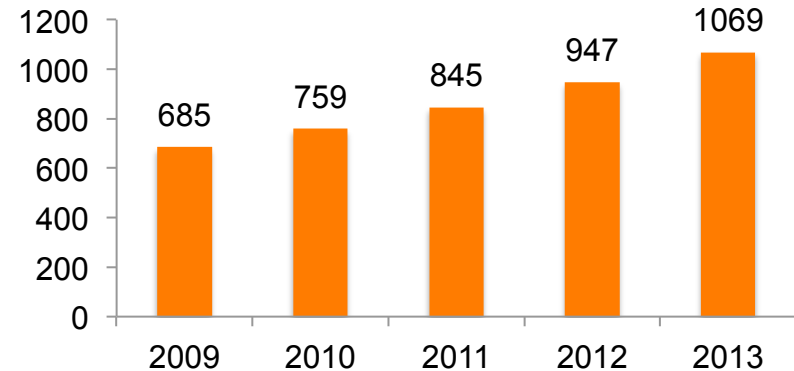
Effluent Generation Industries split



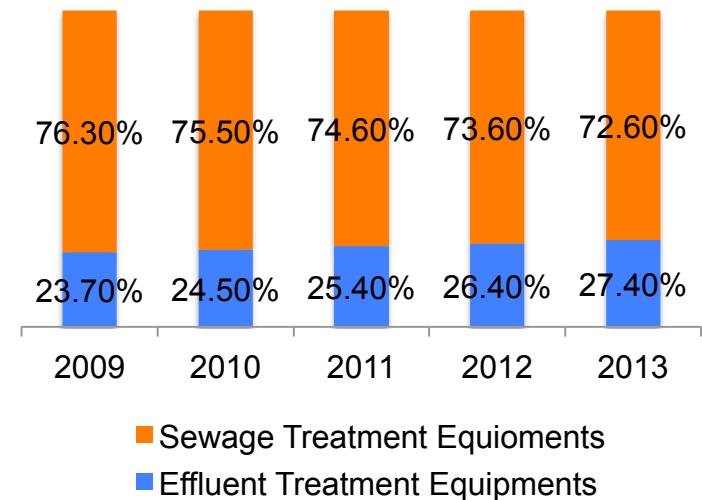
Water Treatment Equipment Demand

- The Euro 1,069 million (FY13) wastewater treatment equipment market has grown rapidly at a CAGR of 10.9% during the period of 2007-2013.
- These systems or equipment are used during the primary, secondary, biological treatment, tertiary treatment, physic-chemical treatment, and membrane separation process to attain the zero-discharge standards laid by the authority.
- Companies focused at providing innovative and economical systems to industries such as chemicals, pharmaceutical, refineries, dairy, ready mix plants & textile and others.
- The recessionary years did not witness substantial change in the revenues and the total revenue growth rate during the years 2008 and 2009 were 10.2% in 2008 and 8.3% in 2009.
- Membrane bioreactors have become important processing tools.
- The membrane bioreactors accounted for 50.0% of market in 2013 which has increased from 45.0% in 2007.
- The market also observes increasing trend in favor of sustainable wastewater treatment technologies such as MBRs and up flow anaerobic sludge blanket (UASB) for biogas generation from industrial wastewater treatment.

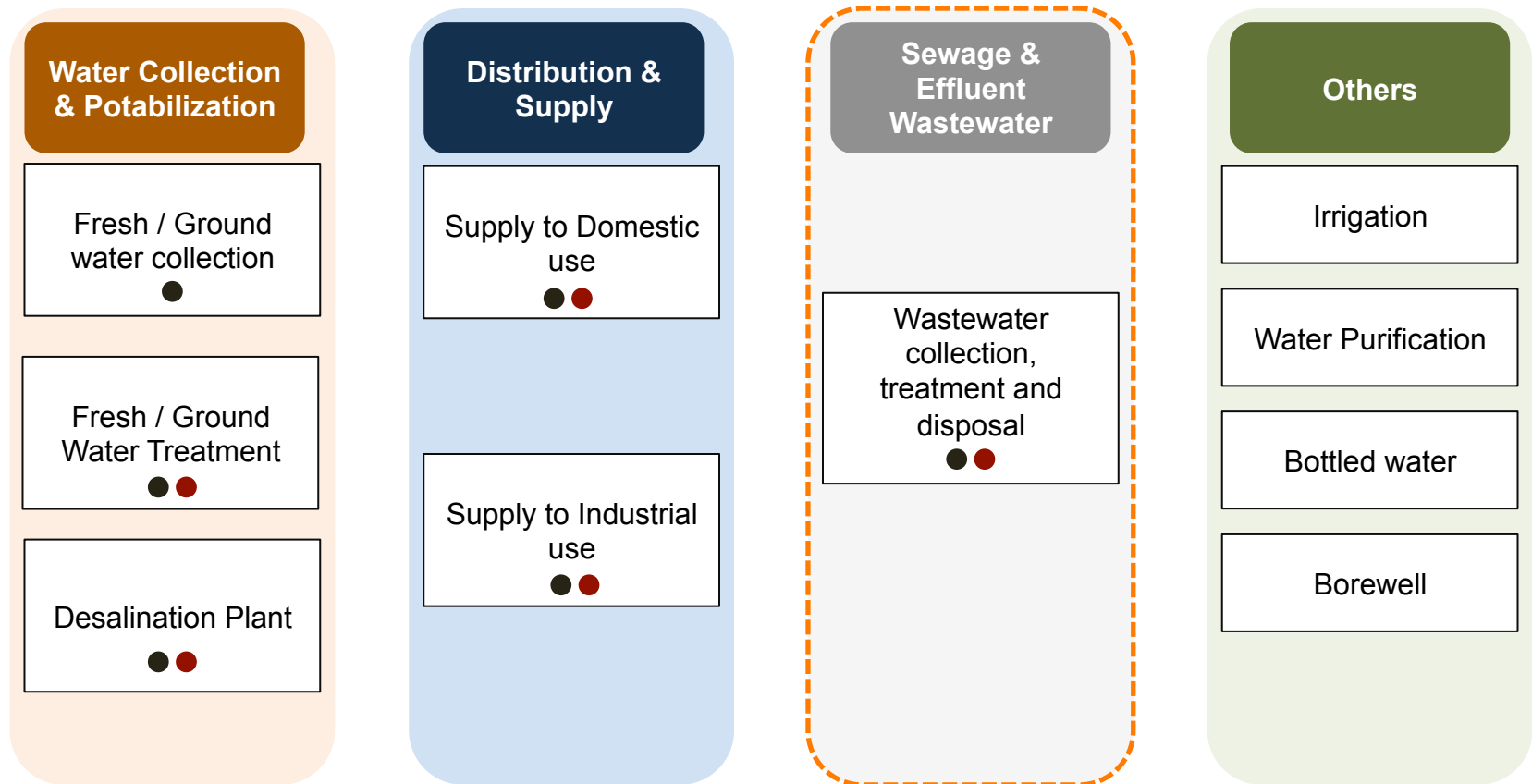
Water Treatment Equipment Industry Market Size (Euro mn)



Equipment Segmentation



Opportunities



● Opportunities for **International Companies** – Designing and installation of treatment plants / equipment supply / technology transfer / feasibility studies and technical consulting

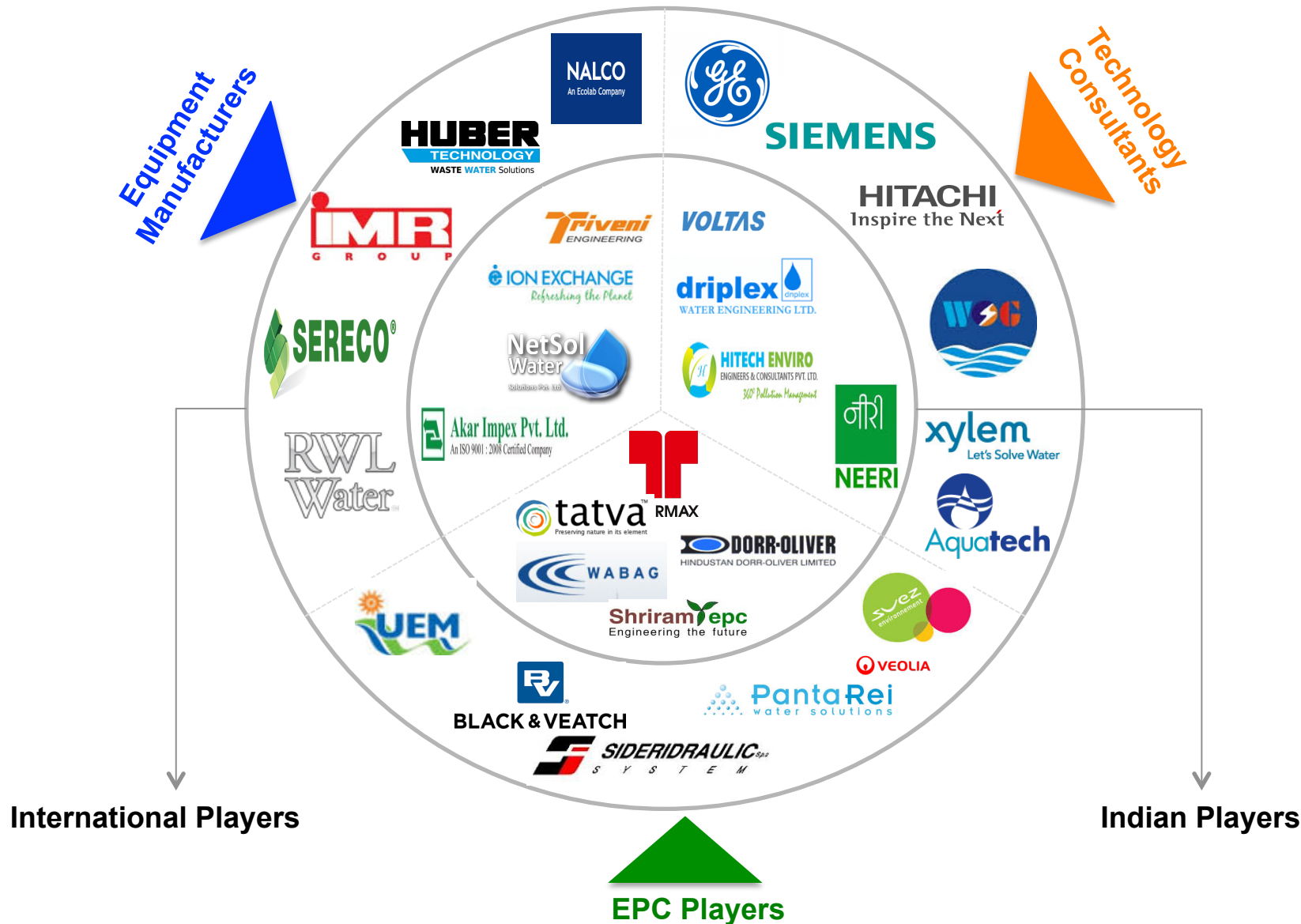
● Opportunities for **domestic companies** – Installation of treatment plants / distribution & supply / water purification, O&M players and bottled water production

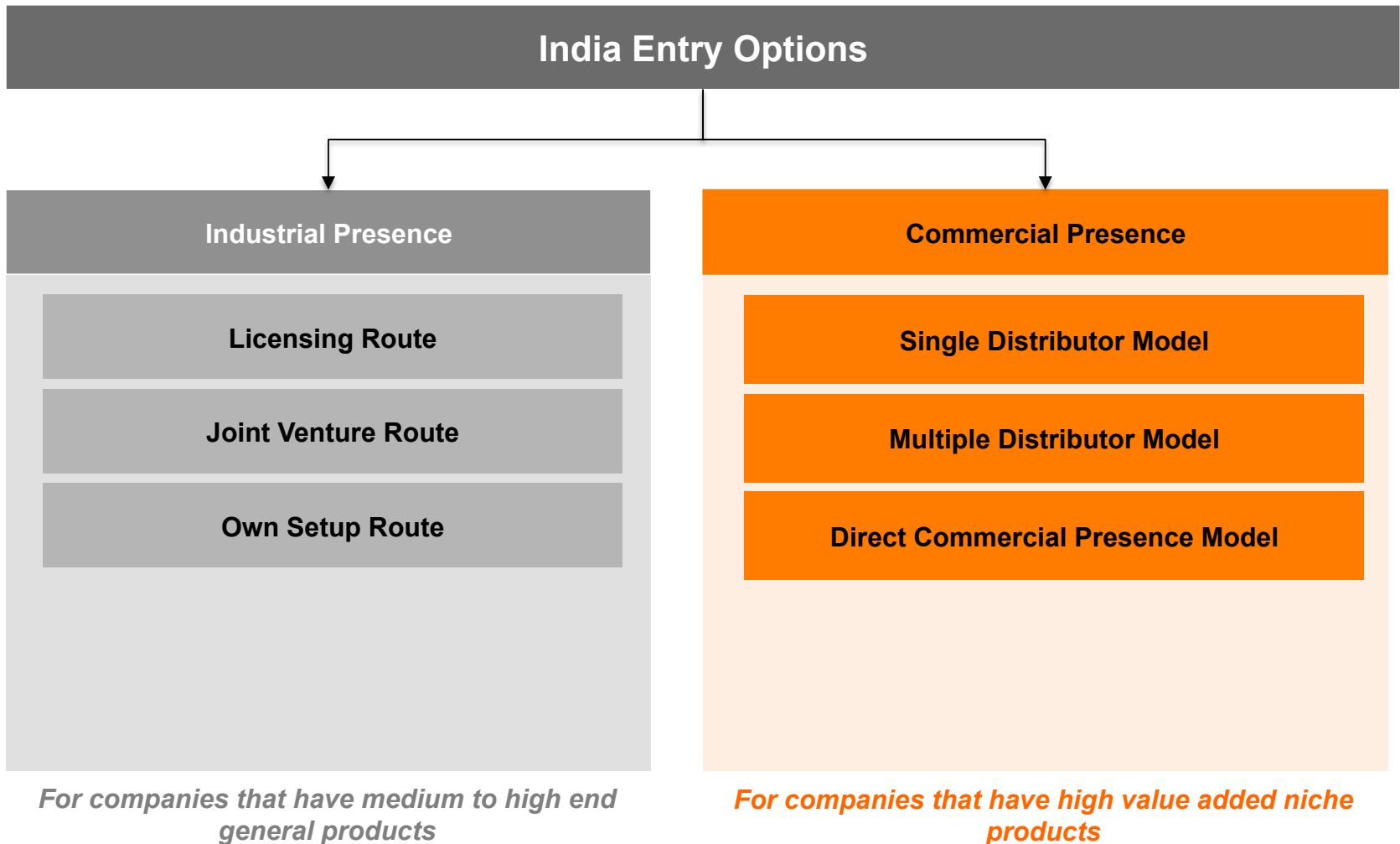
Key opportunities for International companies

International companies that offer specialized services and product in the area of **collection, conveyance, treatment, monitoring and analysis** of water are well placed to serve the Indian market

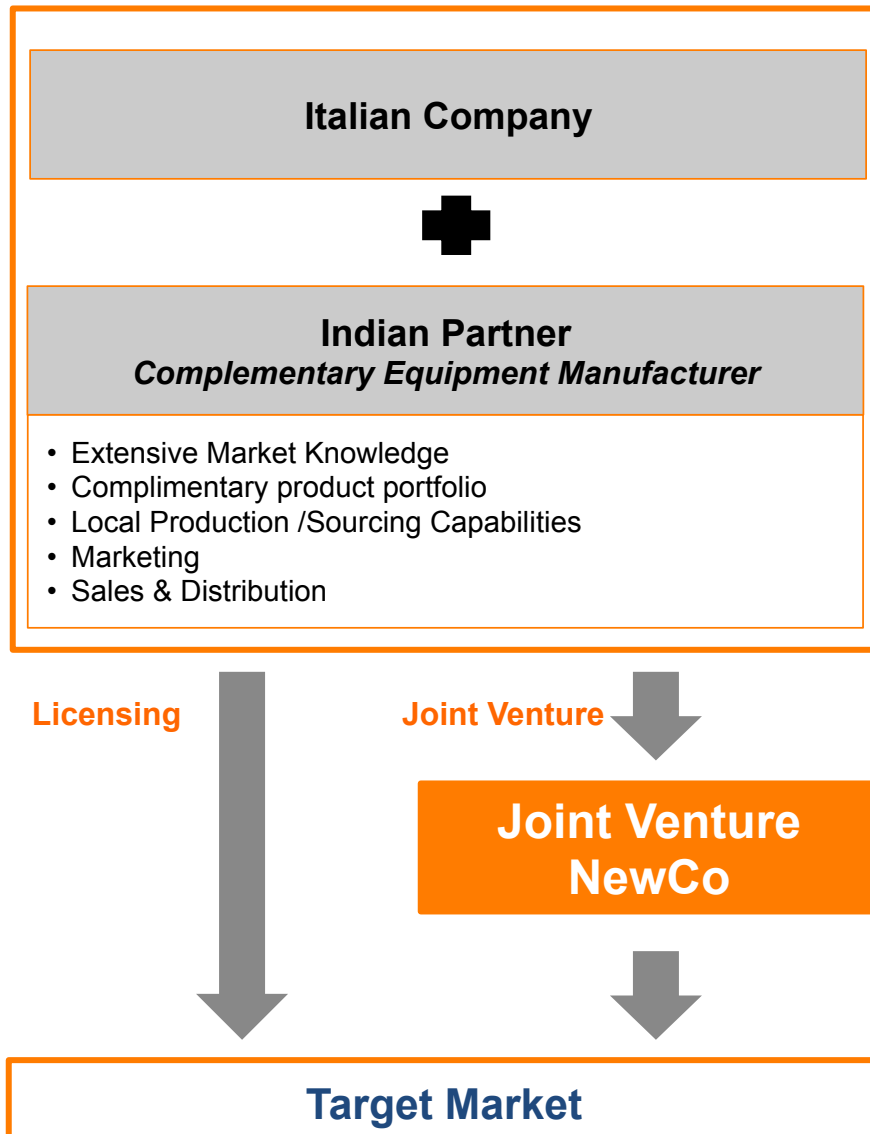
Market Demand That Could Be Satisfied By International Players	
Integrated water treatment solutions such as performing feasibility studies, designing, technical consulting and providing operation and online maintenance services	Equipment/Consulting/EPC
Systems and equipment for water supply, sewerage treatment as well as efficient use and reuse of water; such offerings should be addressed primarily to industrial organizations with a high degree of pollution (cement, paper, pharma, textile, leather etc).	Equipment/Consulting
Equipment for wastewater treatment, including treatment technologies, bio gas regeneration through anaerobic treatment of municipal and industrial wastewater	Equipment/Consulting
Technical designs and equipment for rainwater harvesting systems	Consulting
Equipment for water saving and water recycling	Equipment
Systems for the rehabilitation of sewage (including septic system rehabilitation).	Consulting
Packaged and transportable sewerage and wastewater treatment systems.	Equipment
Technical designs, equipment and maintenance of equipment for disinfecting water by electrolysis	Equipment/Consulting
Solutions for the efficient use of water (including systems for irrigation such as sprinkler or drip irrigation and low-flow faucets and other water use systems).	Equipment
Instruments to analyze water (including water-saving devices for private households)	Equipment
Water purification systems for municipal, community and household use	Equipment/Consulting/EPC

Water Treatment Sector Competitive Landscape





Models To Setup Industrial Presence

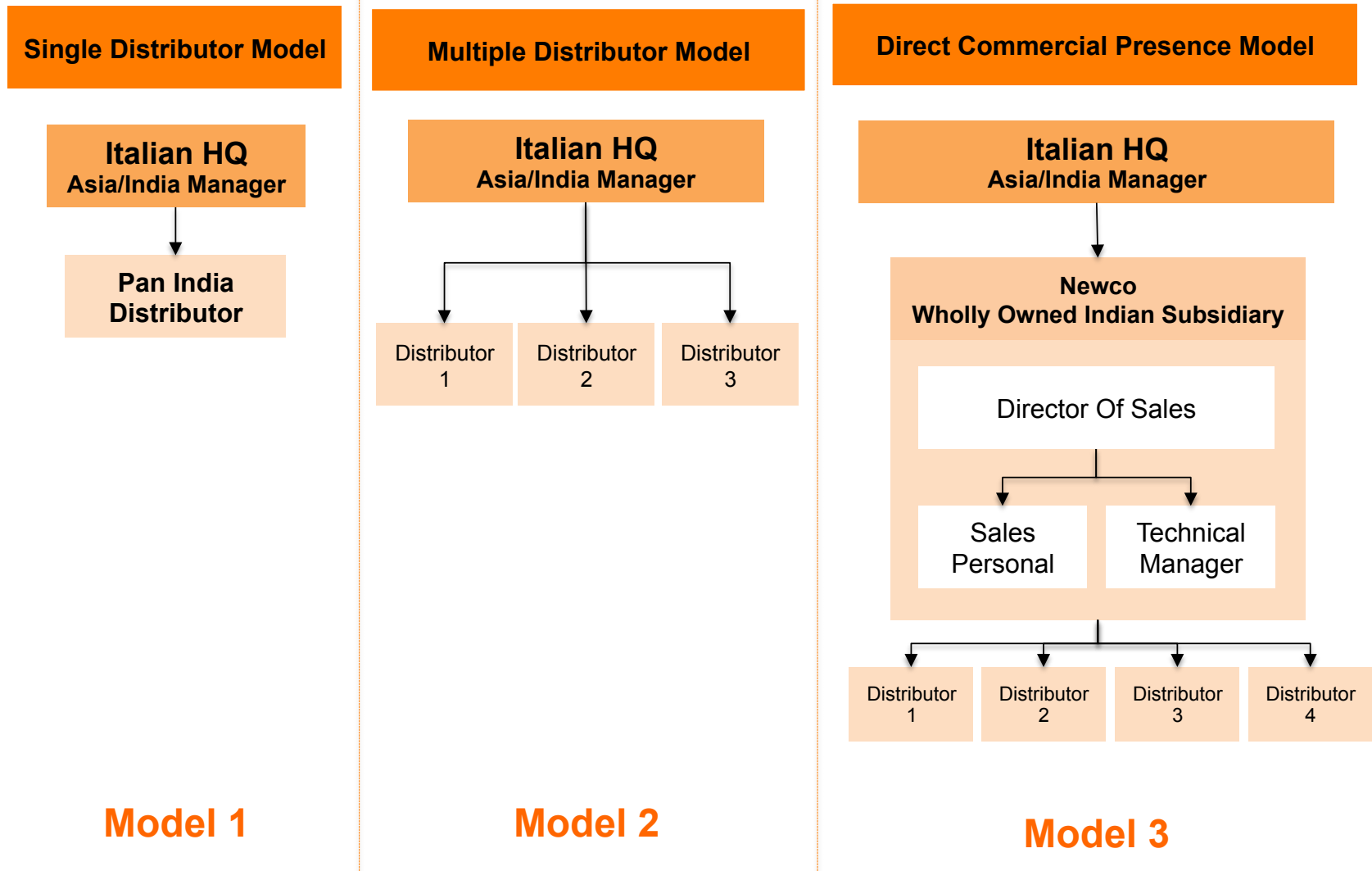


Tentative Roles & Responsibilities	
Italian Company	Indian Partner
<ul style="list-style-type: none"> • Technology and design know-how • Production/assembly support • Training • Marketing, sales, pricing strategy • Quality Control 	<ul style="list-style-type: none"> • Sales and marketing, pricing and local inputs • Business development in India • Sourcing capabilities • Local production • Distribution Channels



















Advantages / Benefits
<ul style="list-style-type: none"> • Greenfield initiative will ensure that production, quality, etc. are in line with Italian Company's expectations and standards • Strong local understanding of market dynamics to continuously adapt to product characteristics and designs • Opportunity to leverage the cost advantage of the Indian production facility for its other South Asian markets, if desired

Challenges
<ul style="list-style-type: none"> • Indian partner may seek a substantial role in the overall operations, leading to conflicts between Italian company and the Indian partner • Long drawn negotiations to define all aspects of the Joint Venture/Licensing • Longer time to set up the production infrastructure

Models To Setup Commercial Presence



Commercial Presence: Comparative analysis

Factors	Single Distributor Model	Multiple Distributor Model	Direct Commercial Presence Model
Geographical Reach	Low 	Moderate 	High 
Product Focus & Sales Efficiency	Moderate Product Focus 	Moderate Product Focus 	High Product Focus 
	Low Sales Efficiency 	Moderate Sales Efficiency 	High Sales Efficiency 
Market Intelligence	Nil 	Low 	High 
Future Expansion & Scalability	Nil 	Low 	High 
Investment	Low 	Low 	Relatively High 

PLANNING FOR TOMORROW

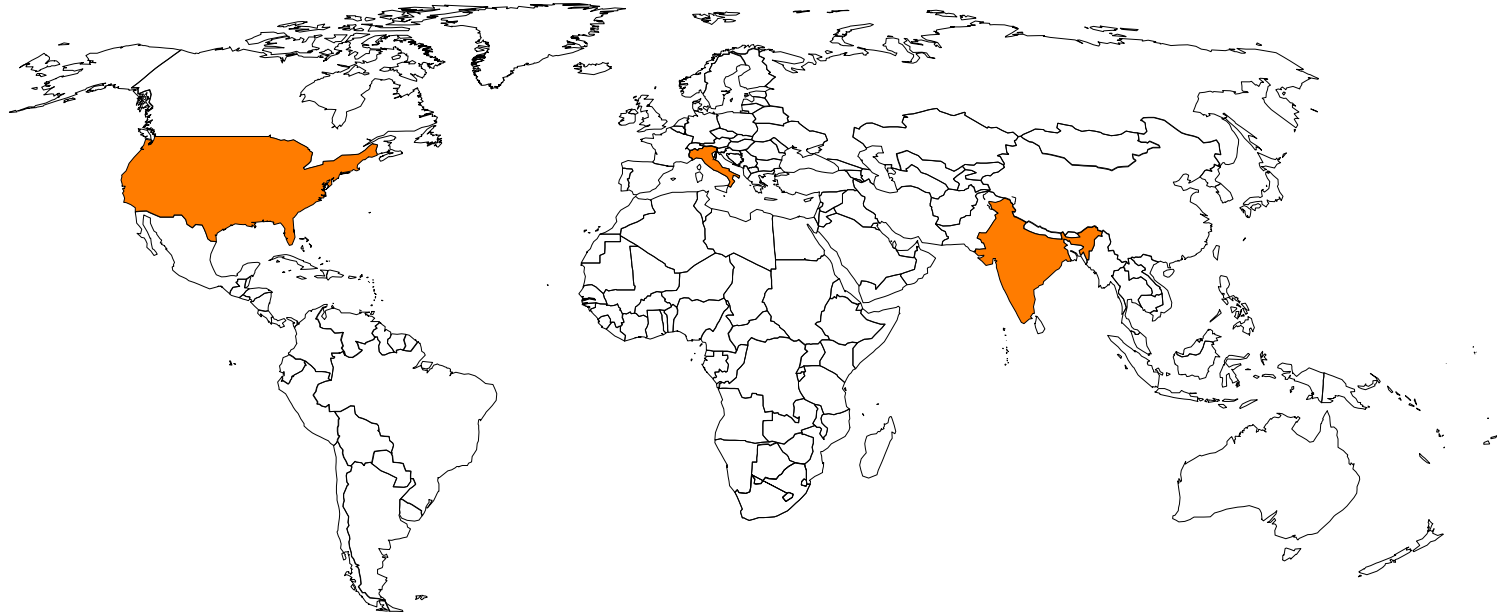
- International company should conduct an independent investigation on the Indian market to understand the potential that it offers.
- Define annual qualitative and quantitative targets for the Indian market.
- Define a road map and budgeting system to achieve the target by prioritizing on key products and geographies

SIMPLIFIED PROCESSES

- Setup reporting systems to encourage involvement and share responsibilities.
- Reporting system should have high element of follow-up and feedback mechanism.
- Setup internal and external systems and processes to execute sales and after sales support.

SEAMLESS EXECUTION

- Clarity in communication and expectation with the distributors.
- Business aspects such as minimum stock purchase, cost sharing on fairs, definition of consumables vs warranty parts should be clearly defined in the agreement.
- Rigorous follow up with distributors and market feedback on the products.
- Continuous study of the market and customizing the product based on market demand.



USA

1432 K Street NW
Washington DC
20005
Phone: +1.202.7890001
Fax: +1.202.7890009

ITALY

Corso Venezia 36
20121 Milano
Phone: +39.02.89053850
Fax: +39.02.89053860

INDIA

Fairlink Center Off New Link
Road Mumbai
400053
Phone: +91.22.40393710
Fax: +91.22.40168369

Glossary

- BCM – Billion Cubic Meters
- MHA – Million Hectare
- MLD – Million Liters Per Day
- DCB – Domestic Competitive Bidding
- ICB – International Competitive Bidding
- Domestic wastewater – Wastewater generated from households, institutions and businesses. Also called Sewage/Municipal wastewater.
- Industrial wastewater – Effluent.
- 1 Euro = 70 INR