

**VOLVO**

# Content



- **Volvo's BRT experience Globally and offers**



- **Volvo Buses in India – Journey So far**



- **BRT Challenge in Indian Context**



- **Volvo approach for BRT in India**

VOLVO BUSES

# PART OF THE VOLVO GROUP

The Volvo Group is one of the world's leading manufacturers of trucks, buses, construction equipment, marine and industrial engines

The Volvo Group employs about 95,000 people, has production facilities in 18 countries and sales of products in more than 190 markets







*The Volvo Group's vision is to become the world leader in sustainable transport solutions*

*by*

creating value for customers in selected segments

pioneering products and services for the transport and infra-structure industries

driving quality, safety and environmental care

working with energy, passion and respect for the individual

# Brand portfolio with global coverage



VOLVO

One of the world's largest manufacturers of heavy buses, coaches, bus chassis and transport solutions. Global leader in electromobility.



PREVOST

A leading North American manufacturer of premium-seated coaches and conversion coaches for high-end motor homes and specialty conversions.



NOVA BUS

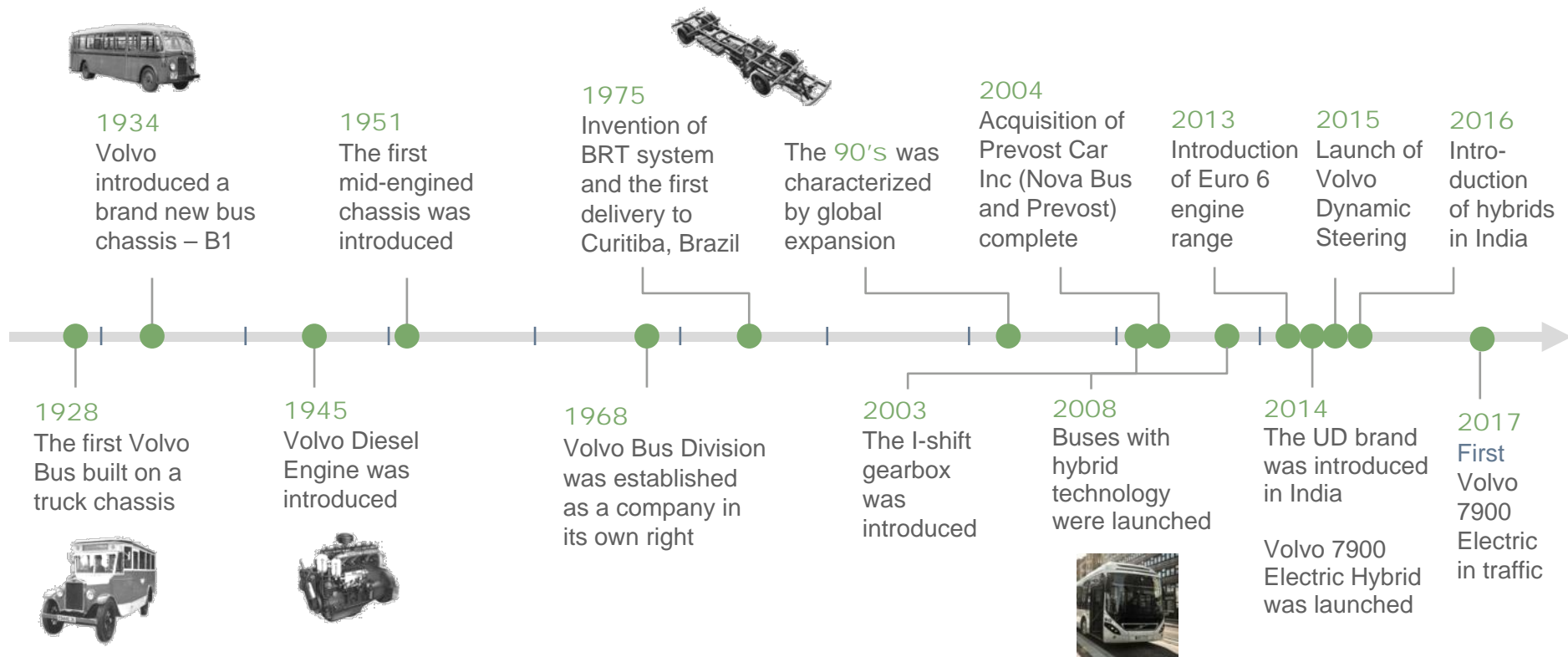
An expert in building city buses and transit solutions on the North American market.



UD

A city bus and coach range aimed specifically at growth markets.

# Volvo Buses – Proud history and exciting future





# Volvo Buses manufacturing sites



# A wide range of Services

Delivering increased uptime and fuel efficiency



- Wide range of value adding services
- Designed to reduce lifecycle cost
- Developed to maximise uptime, optimise fuel efficiency and improve driver performance
- Global service network with more than 1,900 workshops



# Complete offer

For a competitive city and intercity traffic



- A broad product range
- Four strong brands
- Hybrids, electric hybrids and full electric buses
- Focus on low lifecycle cost
- Strong aftermarket support



**NOVA BUS**

**PREVOST**



## Urbanisation

By 2060 2/3 of world population will live in cities

## Climate change

31% of Johannesburg's greenhouse emissions come from transport.

## Energy use

Transport accounts for 21% of energy use in **London**.

## Noise

70% of Hannover's area is exposed to noise levels above 55 dB.

## Air pollution

causes 10k deaths per year in **Delhi**.

## Congestion

costs Mexico City 1.5% of its GDP.

## Road safety

1,300 people are killed in traffic accidents in **Moscow** every year.



# BRT driving change



BRT Success is grounded on the combination of features, not on isolated elements.

**BRT is the service not the bus.**  
An articulated bus running in mixed traffic is just a bigger bus going slow. However, implementation can be gradual as well as feature incorporation.

From	To	Infrastructure	High-cap. buses	Corp. identity	Cashless ticketing	Smart functions	Customer service
Slow	Fast						
Non-reliable	Reliable	✓	✓		✓	✓	✓
Polluting	Environment-friendly	✓	✓			✓	
Unattractive	Attractive	✓	✓	✓	✓	✓	✓
Unsafe	Safe	✓	✓		✓		✓

# BRT is a sound investment

## BRT vs other public transport modes

**With 1 bn Euros you can build approx.**

(only initial investment in infrastructure and equipment)

Bus Rapid Transit



**200 km of BRT**

Tram



**60 km of Trams**

Metro



**15 km of Metro**

**Mexico City: over USD 800 million saved by building a BRT line instead of a tram**



# Social benefits

## Better quality of life



## Accessibility for all



## Safer travel



## Urban revitalization



## Happier and prouder citizens

# Volvo and BRT: a 40 year commitment

1967 Volvo B58

1981 Volvo B10MA

1994 Low-floor articulated bus in Europe  
1995 Environmental Concept Bus

2005 Low-floor buses for South America  
2009 Commercial hybrid bus  
2005 Low-floor buses for Latin America  
2009 Commercial hybrid bus

2012 Hybrid buses for Latin America  
2013 Hybrid artic bus for Europe  
2014 Launch of electric hybrid buses



## 1970s

## 1980s

## 1990s

## 2000s

## 2010s

1974 Curitiba BRT

1986 Goiania BRT

1991 Biarticulated in Curitiba  
1994 BRT in Quito

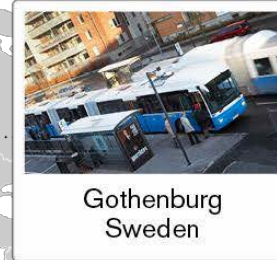
BRT in Bogotá (2000), Mexico City (2005) & Santiago (2005)

Hybrid buses in Mexico City (2012), Curitiba (2012) and Bogotá (2014)  
2010 BRTs in South Africa



# Volvo and BRT, success stories

## Volvo market share in BRT in Latin America: 60%



**32**  
cities

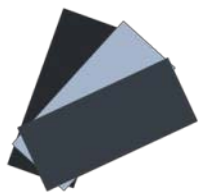
**15**  
countries

**12**  
million passengers  
per day



# Volvo BRT leadership based on complete offer

High-capacity buses



Expertise

ITS4mobility



Aftermarket

Financing



Bogotá, Colombia



Curitiba, Brazil



Mexico City, Mexico



Cape Town, South Africa



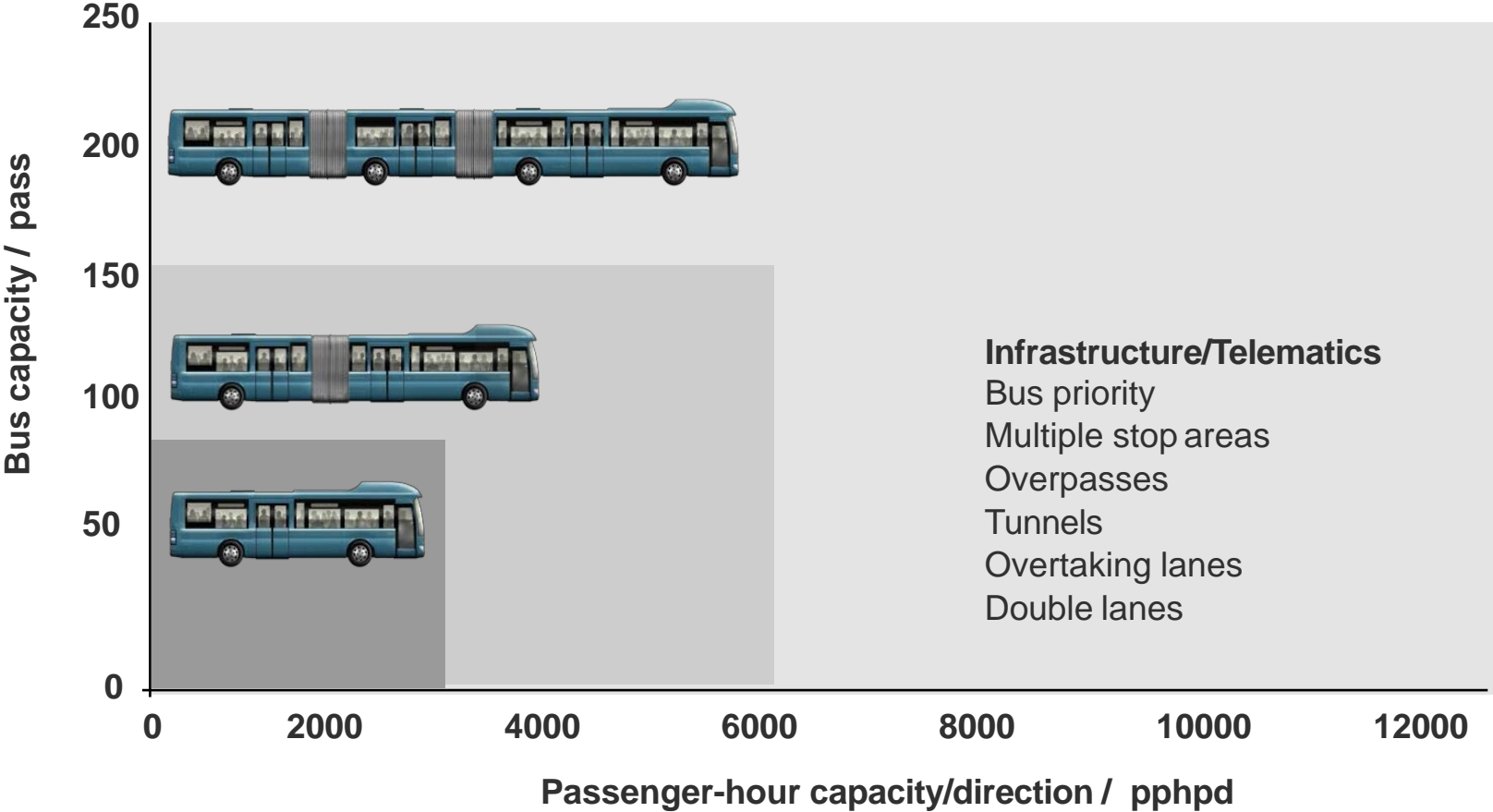
New York City, USA










Gothenburg, Sweden



# Choosing the right bus size (high-capacity std.)

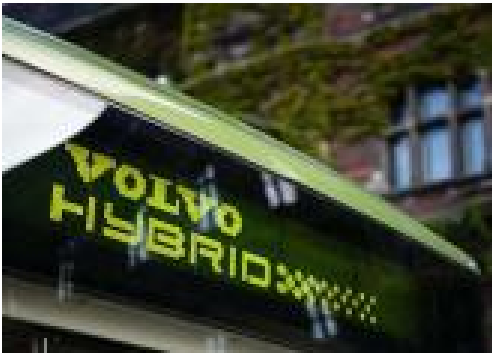


# A wide portfolio to accommodate city needs

<div style="text-align: center;">Length</div> <div style="text-align: center;">Floor</div>	<div style="text-align: center;"><b>12 m</b></div> <div style="text-align: center;">100 passengers</div>	<div style="text-align: center;"><b>18 m (artic)</b></div> <div style="text-align: center;">160 passengers</div>	<div style="text-align: center;"><b>25-27 m (biartic)</b></div> <div style="text-align: center;">250 passengers</div>
<div style="text-align: center;"><b>High floor</b></div> <div style="text-align: center;">Access from elevated platform</div> <div style="text-align: center;">1 meter</div> <div style="text-align: center;">0.9 meter</div>	<div style="text-align: center;">    <i>Cali, Colombia</i> </div>	<div style="text-align: center;">    <i>Goiania, Brazil</i> </div>	<div style="text-align: center;">    <i>Bogotá, Colombia</i> </div>
<div style="text-align: center;"><b>Low entry</b></div> <div style="text-align: center;">Leveled access from curbside</div> <div style="text-align: center;">50% of length at low level (0.3-0.4 m)</div>	<div style="text-align: center;">    <i>Cambridgeshire, UK</i> </div>	<div style="font-size: 2em;">N/A</div>	<div style="font-size: 2em;">N/A</div>
<div style="text-align: center;"><b>Low floor</b></div> <div style="text-align: center;">Leveled access from curbside</div> <div style="text-align: center;">70% of length at low level (0.3-0.4 m)</div>	<div style="text-align: center;">    <i>Tshwane, South Africa</i> </div>	<div style="text-align: center;">    <i>Santiago, Chile</i> </div>	<div style="text-align: center;">    <i>Gothenburg, Sweden</i> </div>

# Volvo Buses IN INDIA

## Driving Quality of



With Global Chassis concept , European Features

# .We set the pace



Introduced LCC concept over **one-time acquisition cost**

# India



Truck Chassis & Front Engines to **True Bus Chassis concept, B7R**

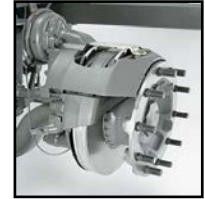


Fully Air-conditioned buses

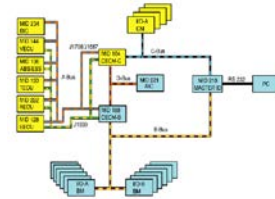


Electronically Controlled Suspension (ECS) with kneeling

Electronic Controlled Braking System EB5



Bus Electronic Architecture with On-board driver diagnostic, BEA2



Drivability & High-Performance



Productivity & Life Cycle Revenue Potential





# VOLVO FOOTPRINT IN INDIA



Connecting  
100 Locations across India



35  
Cities

Aiming to make  
public transport the  
preferred choice

1 Mn+

Passengers use  
Volvo Bus every day

220+

Customers

6000

Buses

3 Bn+ Kms

OF HIGH-PERFORMANCE BUS EXPERIENCE OVER 17 YEARS

# PREMIUM BUSES in URBAN TRANSPORT



## Making Public Transport Attractive

- Over 10 years in operations, 35 Cities, 1600 Buses
- Contributing to Modal Shift – over 35% leave private vehicles
- Many Cities re-purchase – confirm financial & operational sustainability
- Focus on Lifecycle cost and performance



# PREMIUM BUSES in URBAN TRANSPORT



## Modal Shift potential in India

- Can Save upto 50% fuel consumed
- One Bus replaces 28 Cars
- De-congestion and safe commute

# India's BRT Challenge

- **BRTS clearly is the Answer for the City Needs today, not just a commute issue**
- **Commendable initiatives and success in Select Cities  
Few & Far  
Is there a qualitative shift in travel experience?**
- **Buses are at the core of any BRT system,  
But generally not in Focus – needs to be part of the  
whole ecosystem of BRT  
Must address and motivate commuters' current & future  
aspirations**
- **Lack of scale and predictability will limit technology  
solutions & Industry investments**



# Our India Approach



- Developed India adapted product with UBS2 specs and Premium Feature levels
- Bus is at the core of a BRT
- Metro like experience in Buses
- Launched with **UD** Brand
- Total Cost of ownership approach (per km cost marginally above the conventional products)

# **VOLVO**

## **Thank You**

**Suresh Chettiar**  
Chief Operating Officer