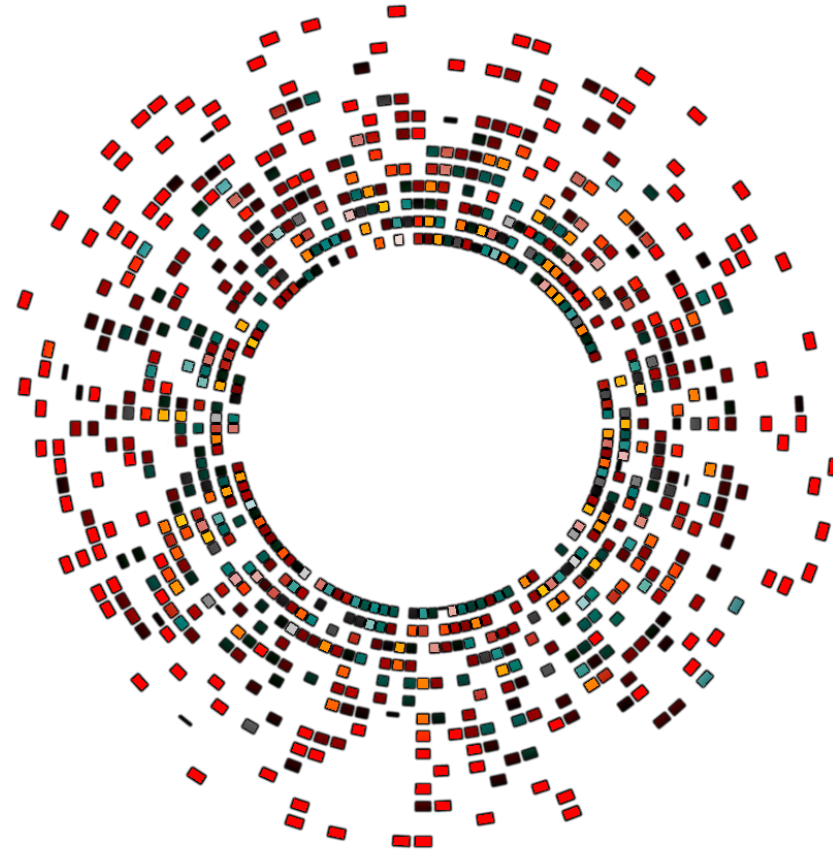




**Smart City**  
MISSION TRANSFORM-NATION



सत्यमेव जयते  
Ministry of Housing and Urban Affairs  
Government of India



# Smart Cities Mission

## An Overview of implementation

# Smart Cities – Mission Strategy



## Redevelopment project

- City Renewal
- Old Slum areas
- Core City areas
- Area - 50 acres (min)

25 acres for NE cities



## Retrofitting project

- City Improvement
- Local Area Planning
- 24x7 water supply
- Area - 500 acres(min)

250 acres for NE cities



## Greenfield project

- City Extension
- Satellite towns
- Integrated townships
- Area - 250 acres (min)

125 acres for NE cities

### City-wide Smart Solutions (at-least one):

- Electronic Service Delivery
- Intelligent Traffic Management Systems
- Smart Metering and Management
- Integrated multi-modal transport systems
- Video crime monitoring

Integrated Smart Solutions through Command & Control Center

Area Based Development



Pan City Development

# Financial Landscape

100 Smart Cities to make investment of ₹2.05 lakh crore

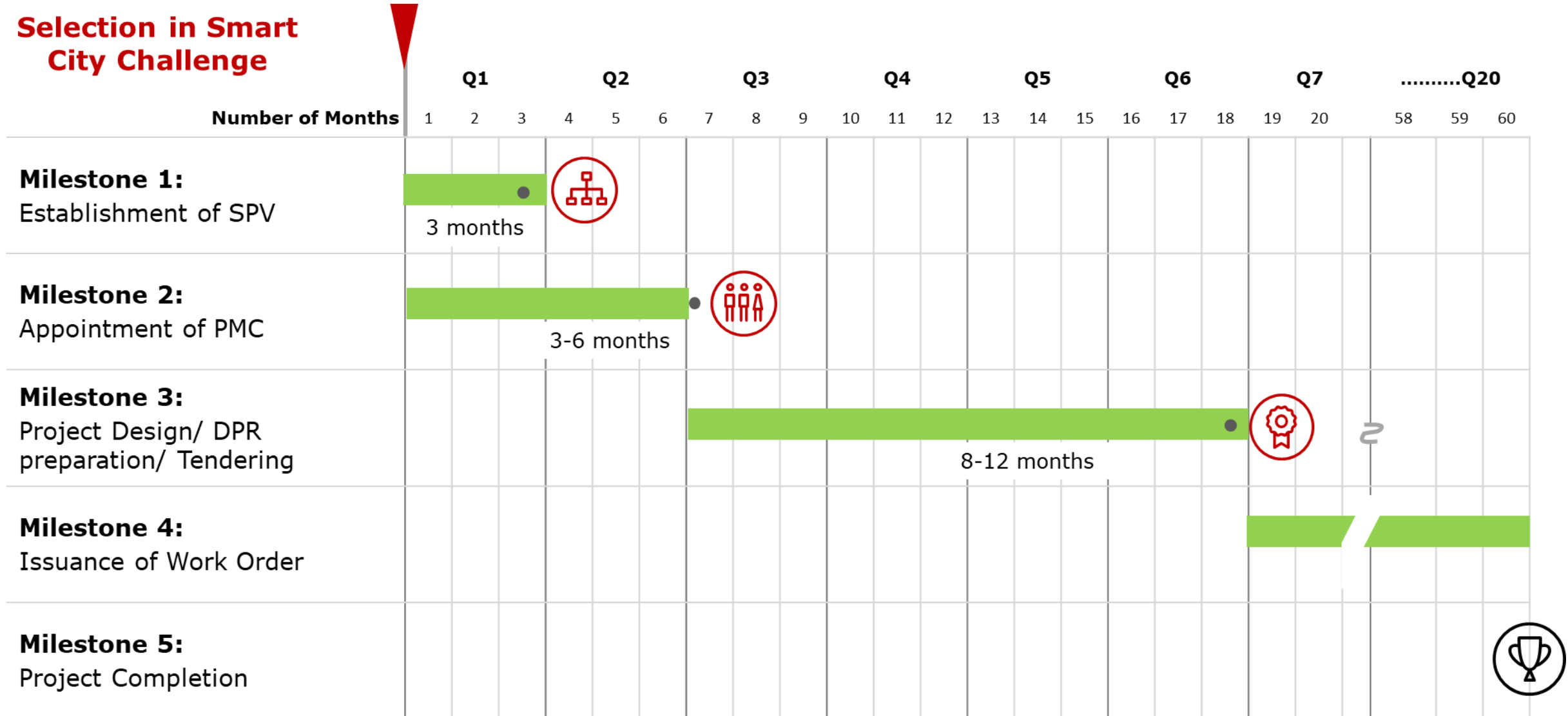
## Four rounds of competition

	Round 1	Round 2	Round 3	Round 4	Total
No. of Selected Cities	20	40	30	10*	100
Period of selection	Jan 2016	May to Sep 2016	Jun 2017	Jan 2018	
Total no. of Projects	829	1,959	1,891	472	5,151
Investment (in ₹ Crores)	48,064	83,698	57,393	15,863	2,05,018
Avg. SCP Size (in ₹ Crores)	2,403	2,092	1,913	1,586	2,050

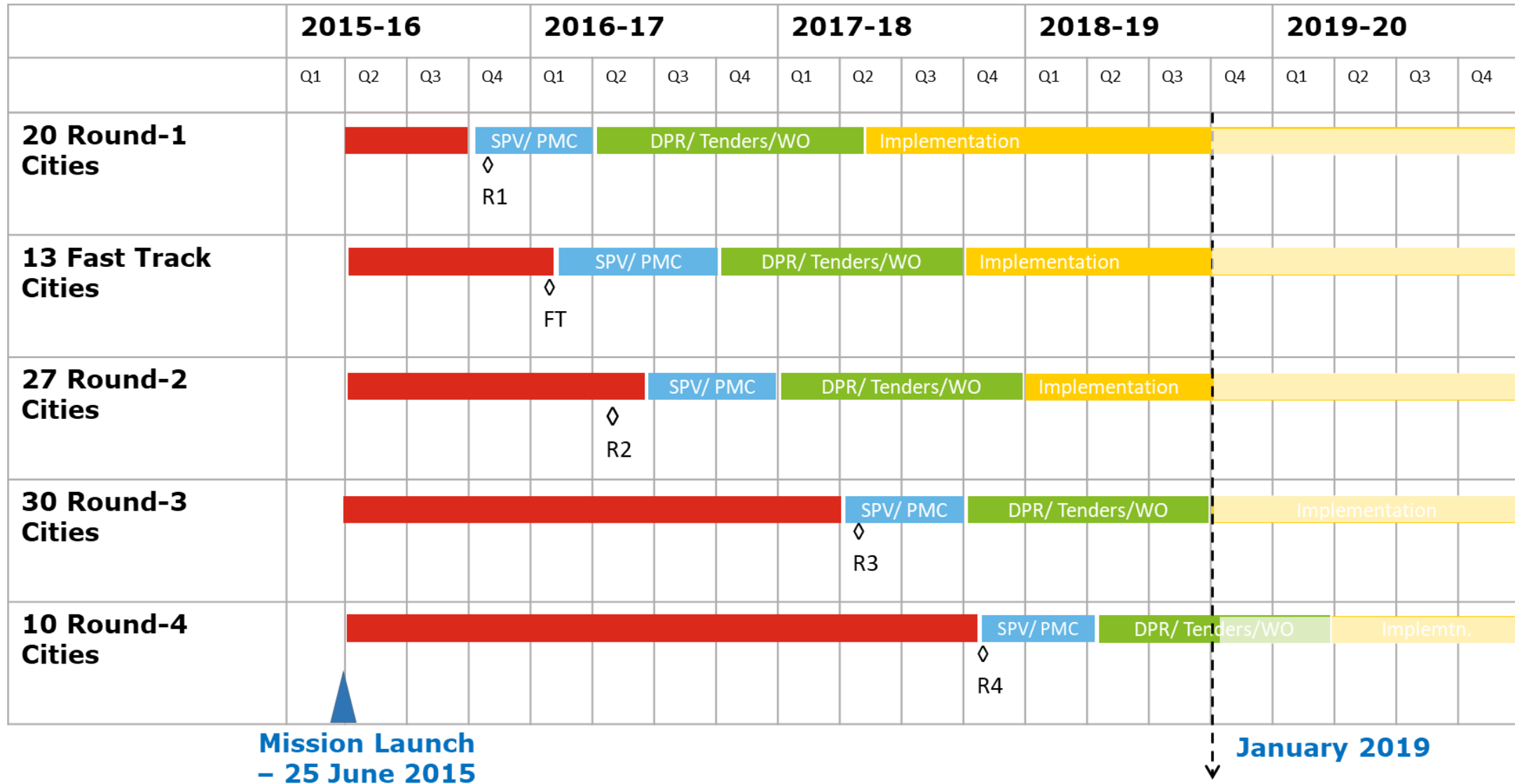
\*Shillong selected as 100th Smart City in June 2018

# Implementation Timeline

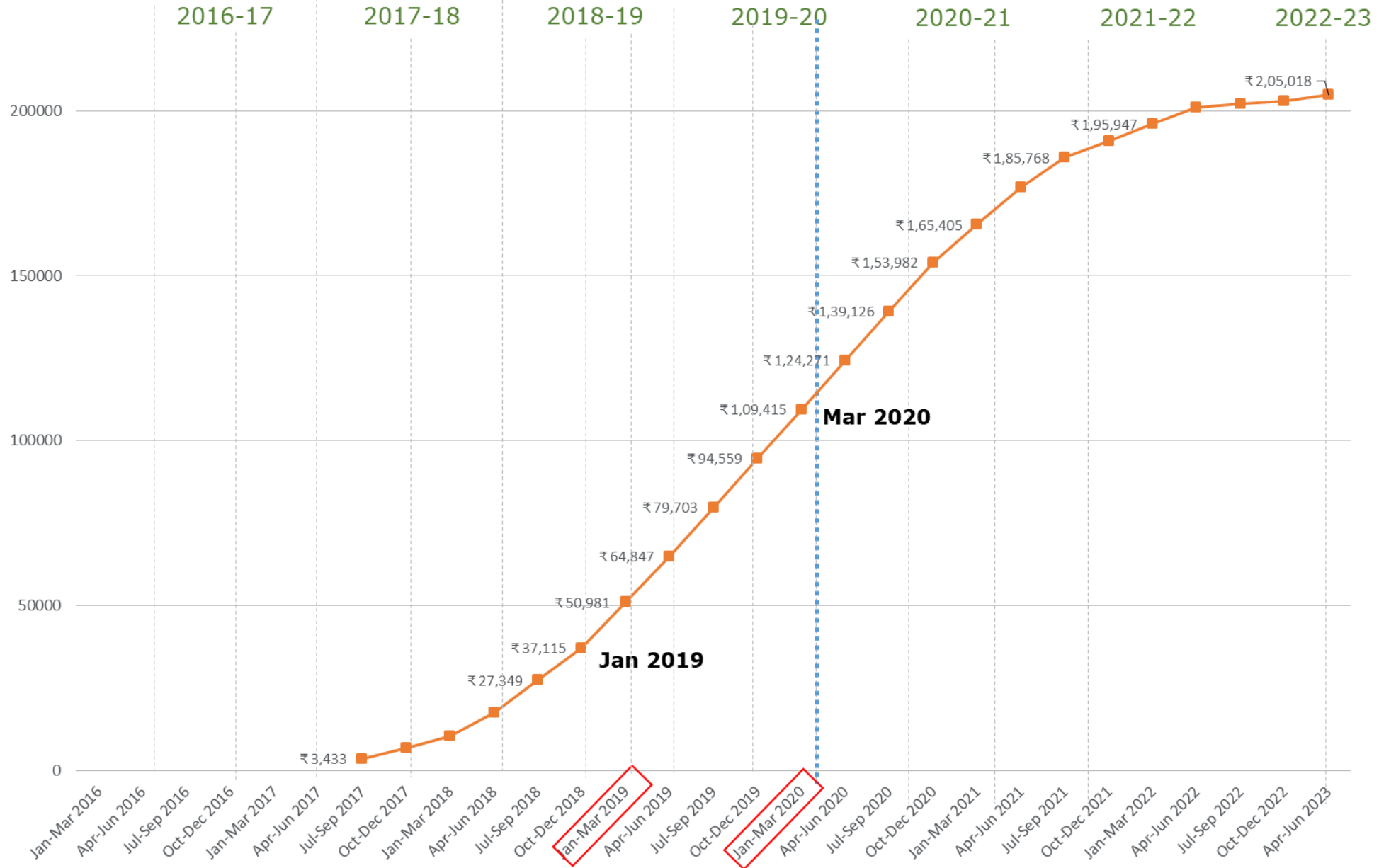
## Selection in Smart City Challenge



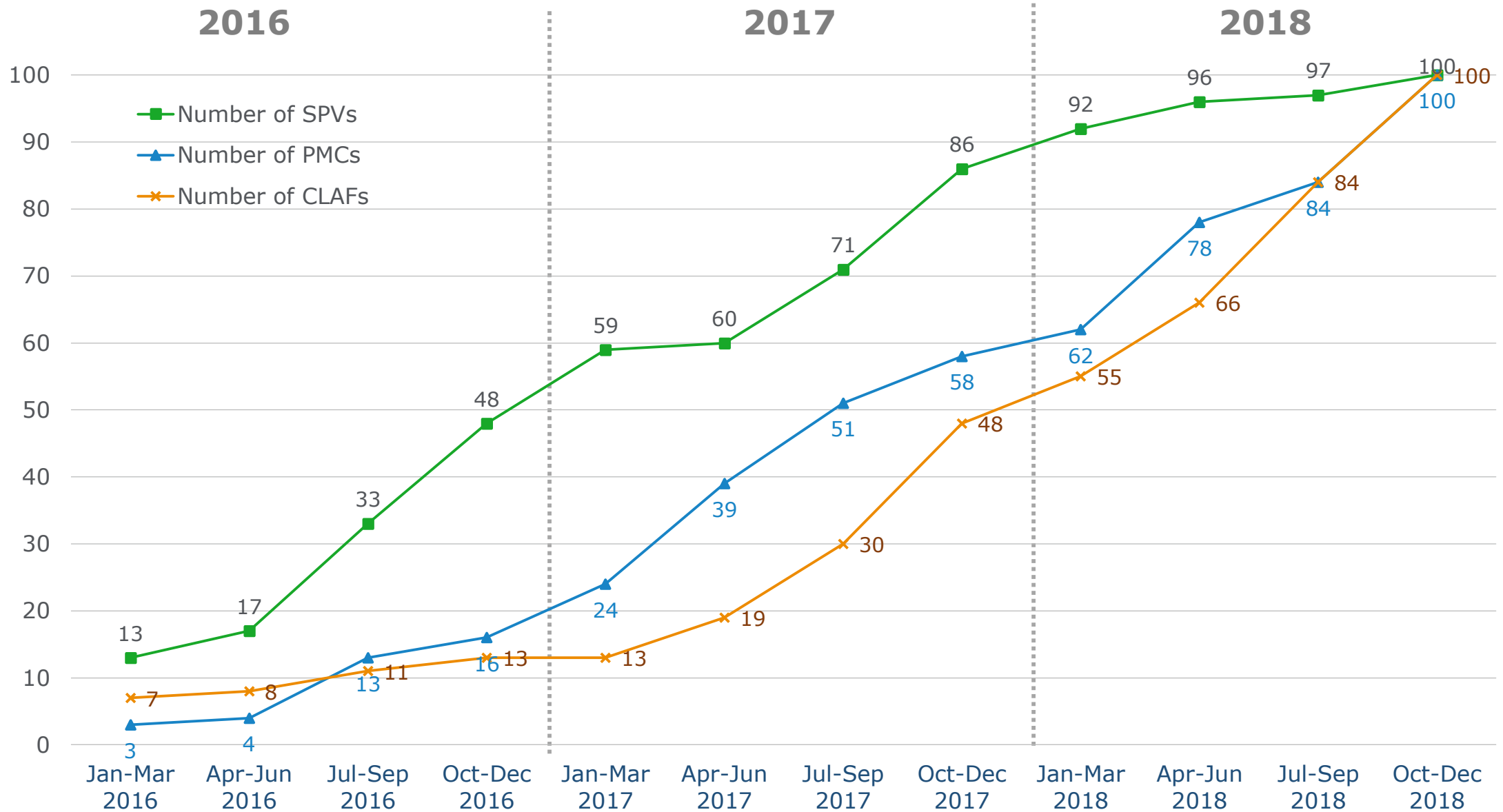
# Timelines vs. Mission Period



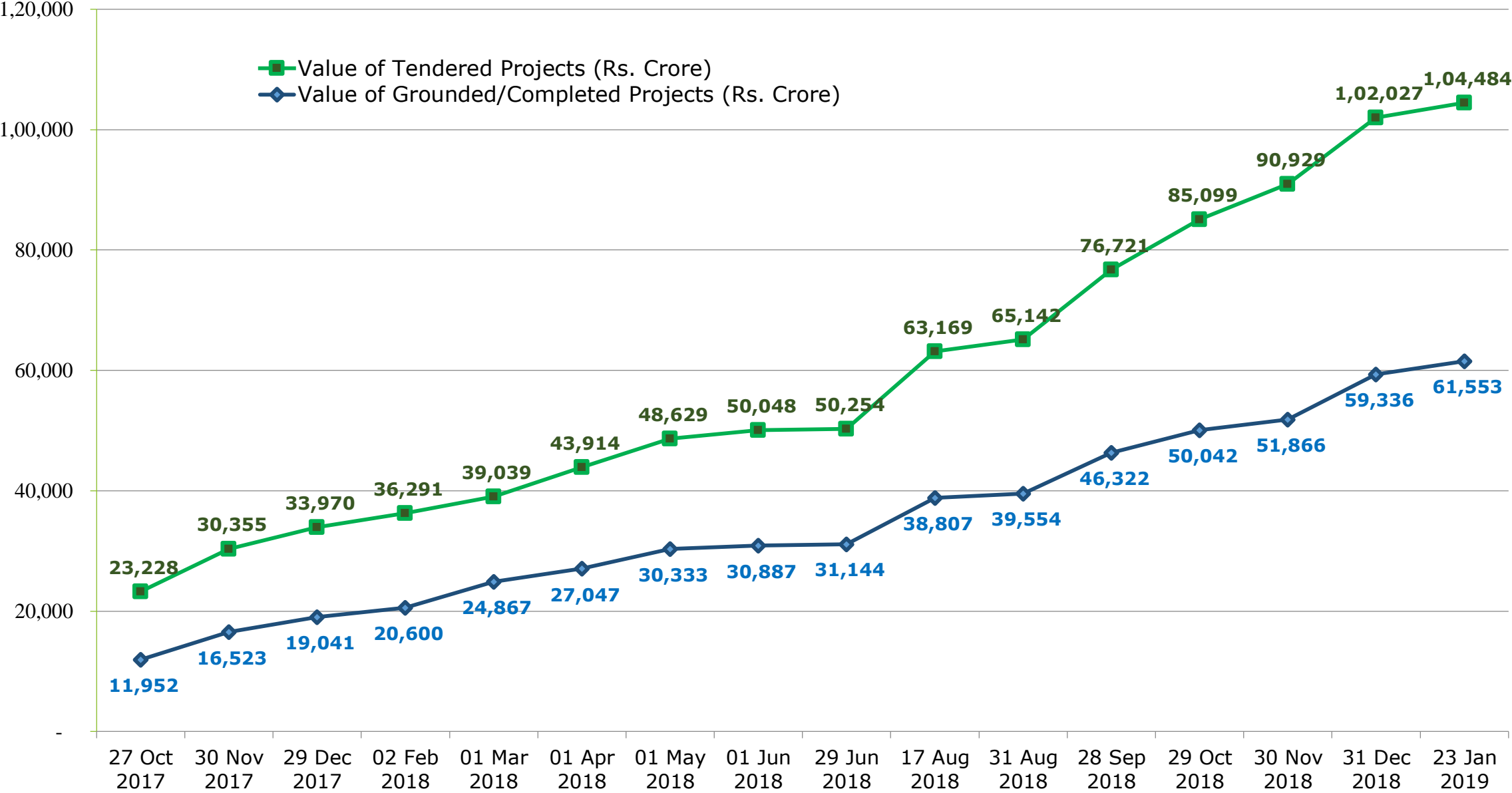
# Timeline for completion (as per SCP)



# HR & Institutions in Smart Cities



# Project Progress

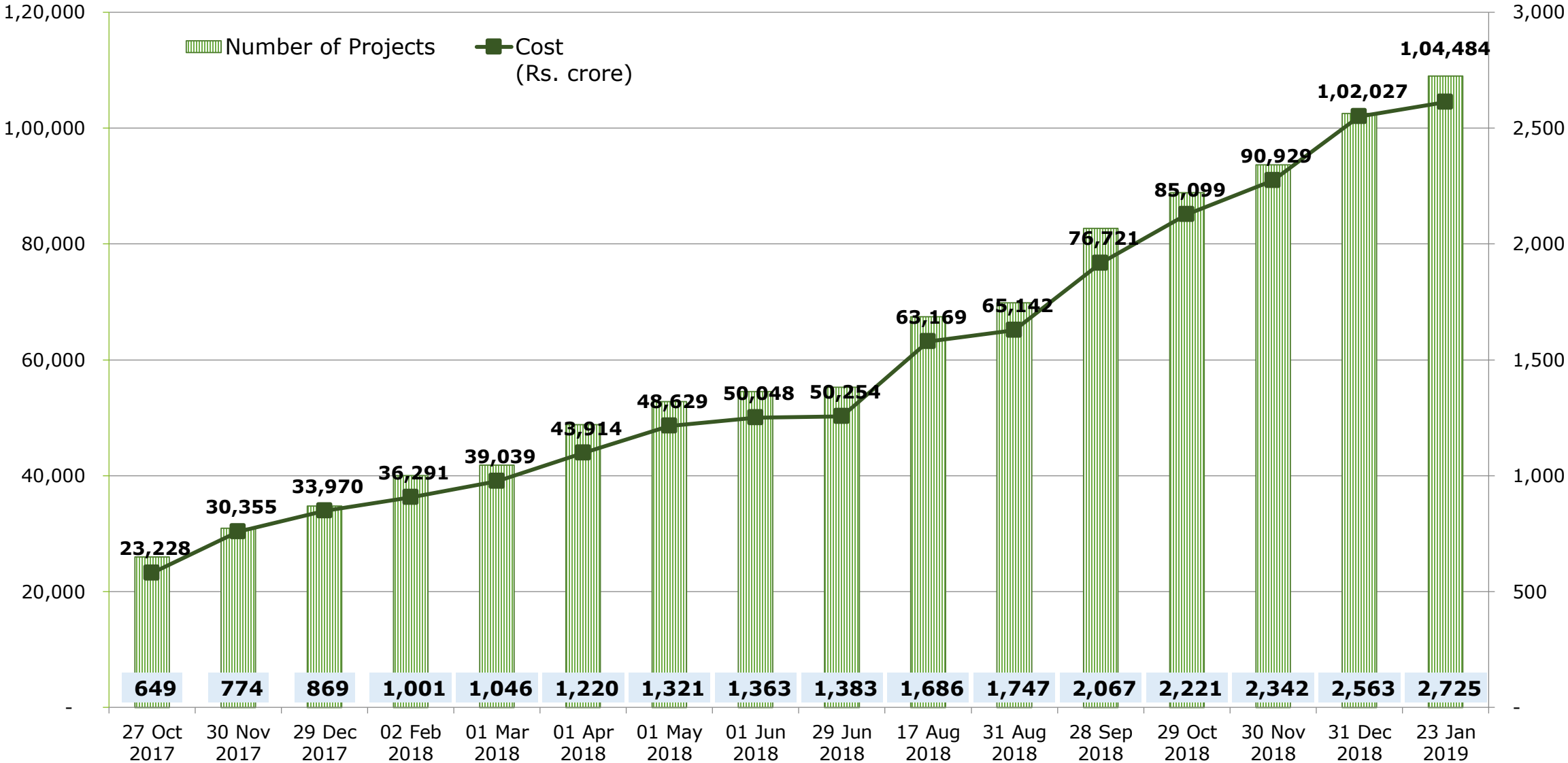


Data as on 31.12.2018



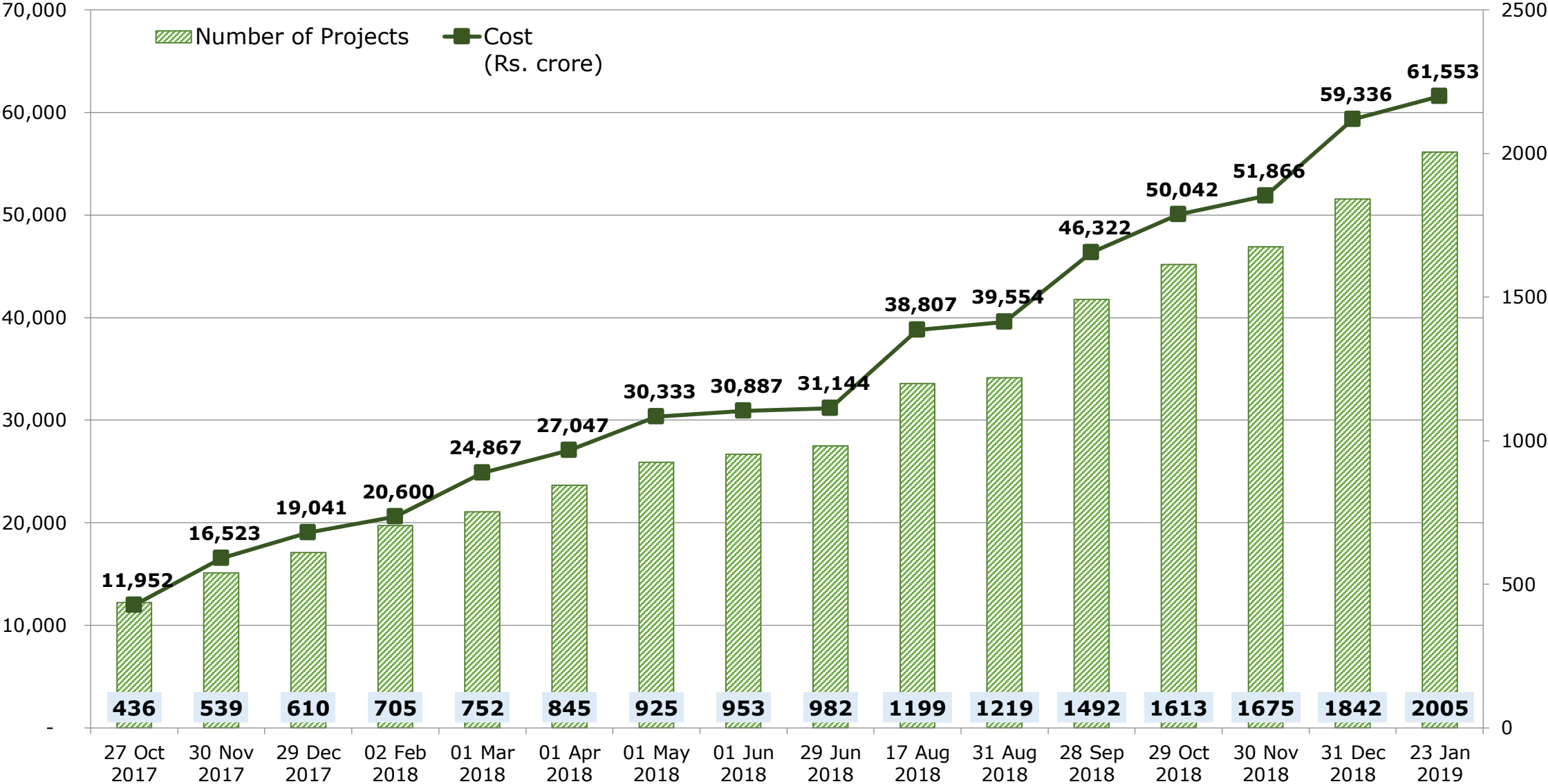
# Projects Tendered

**~ 346 % Increase**  
in last 15 months



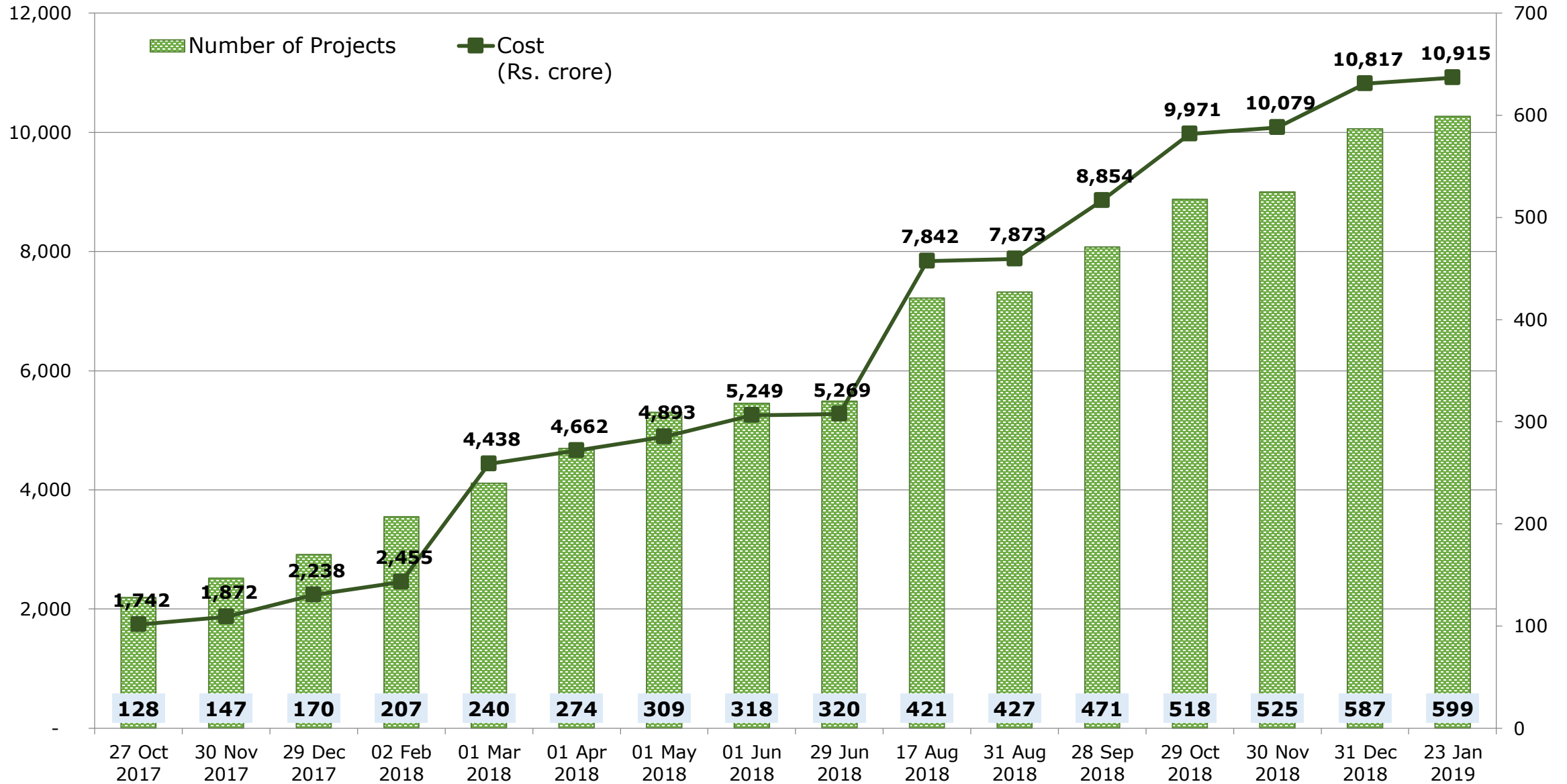
# Projects Grounded

**~ 413 % Increase**  
in last 15 months

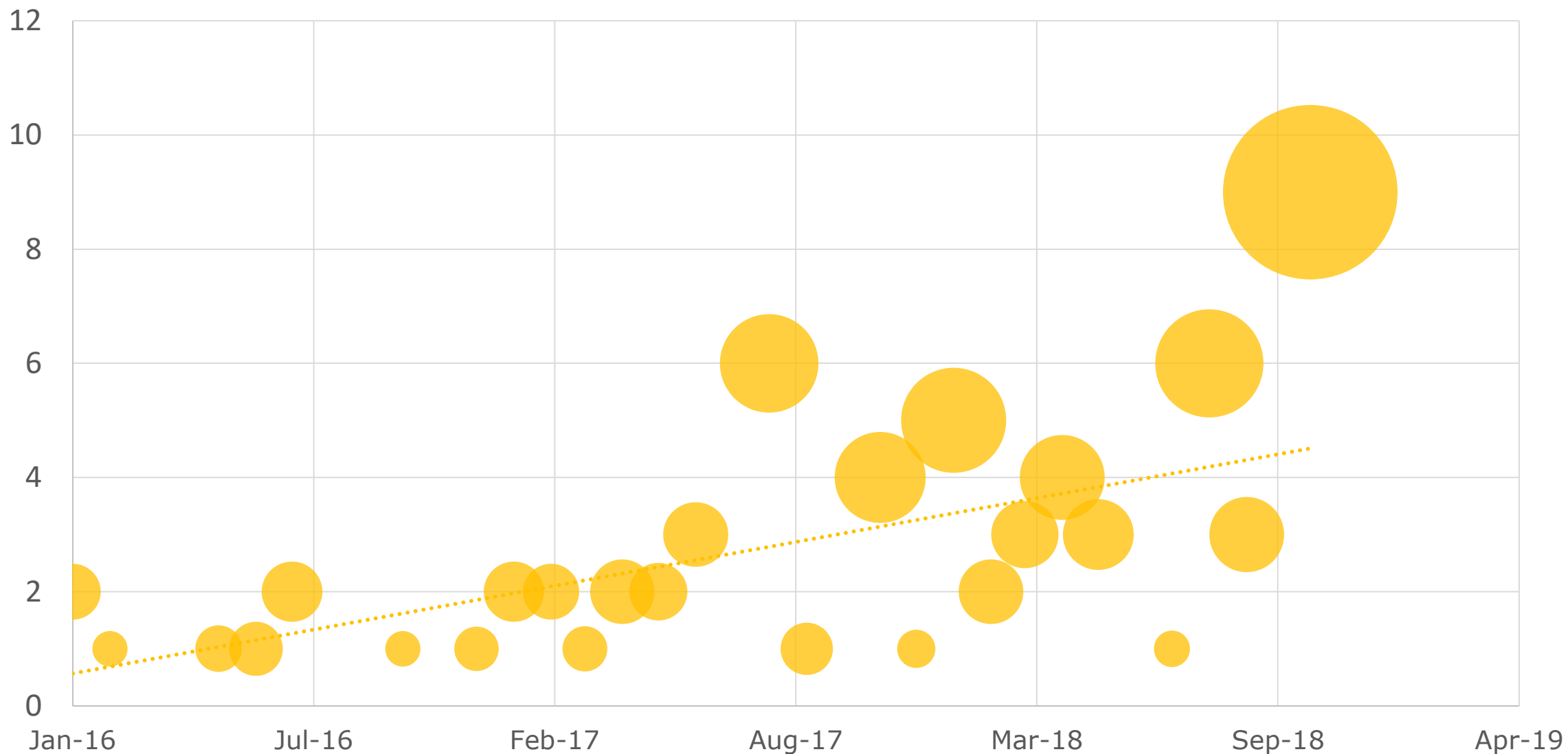


# Projects Completed

**~ 527 % Increase**  
in last 15 months



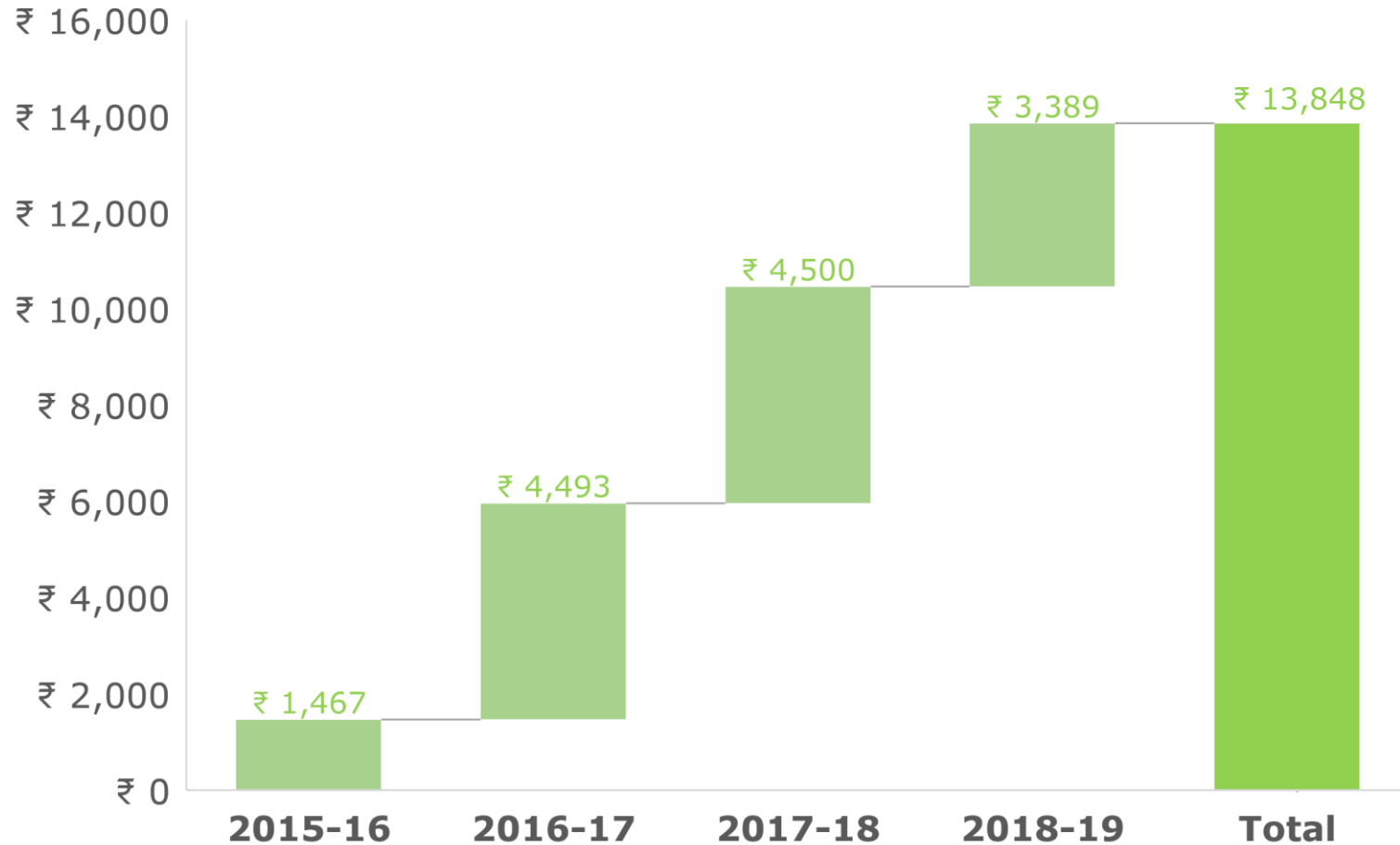
# Larger projects taken up in later stages... (>250 cr)



Tendered projects (costing more than Rs 250 crore), since inception of SCM

# Fund Disbursal

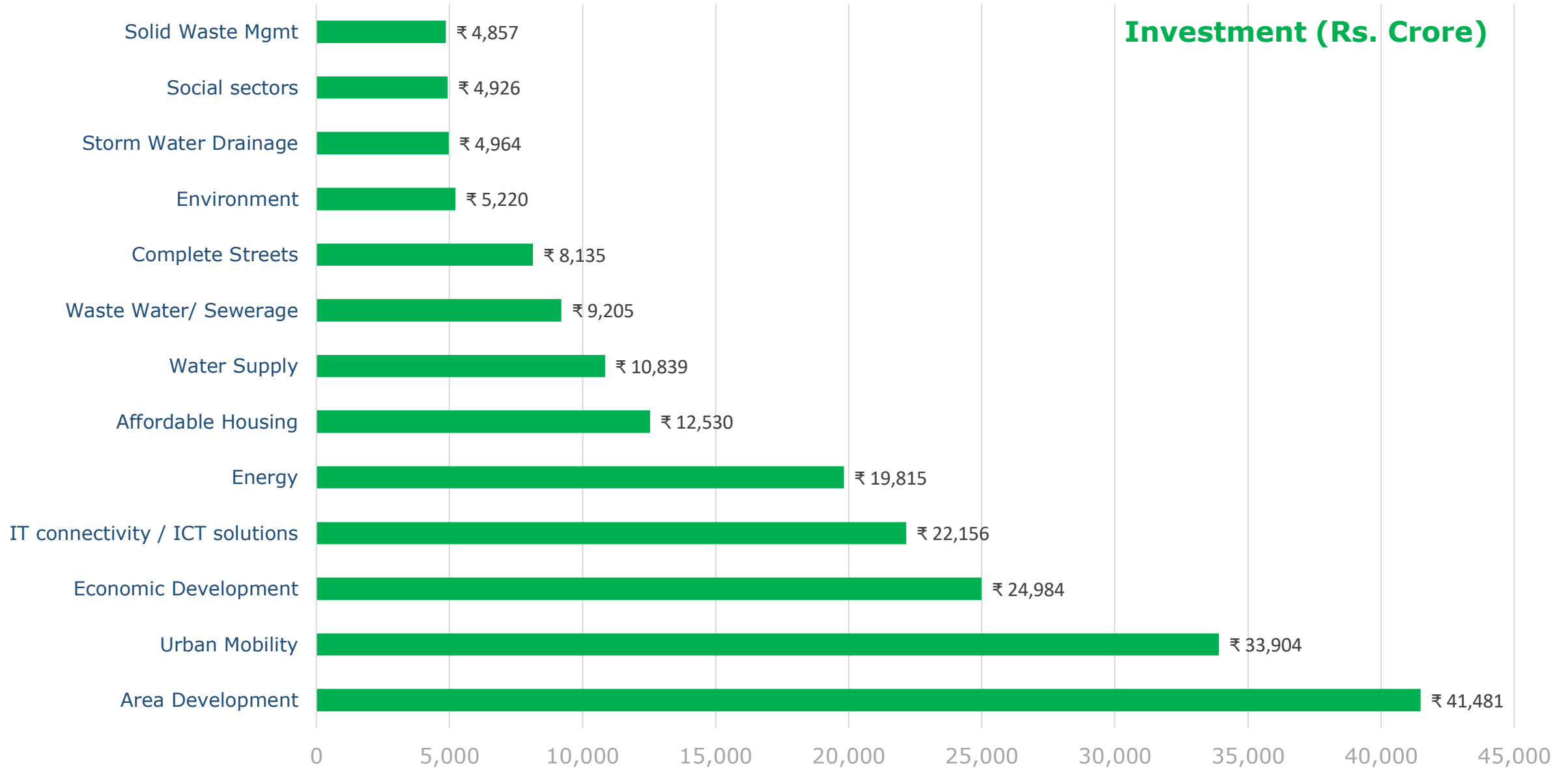
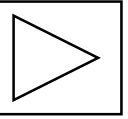
## Fund Released ₹ Crore



Selection Round	Allocation	Release	%
Round-1	9,651	4,203	43.55%
Fast Track	6,043	2,139	35.40%
Round-2	12,794	4,210	32.91%
Round-3	14,478	2,604	17.99%
Round-4	4,297	674	15.69%
<b>100 Cities</b>	<b>48,000*</b>	<b>13,830**</b>	<b>28.81%</b>

*\*Incl. A&OE; \*\*Excl. 18 cr. released to cities not selected  
Note: Data as on 20 November 2018*

# Project Investments – Key Sectors



# Innovation snapshots...

Optical Fibre Cabling  
Street Redesign  
Bhopal Incubation Center  
Smart City Centers  
Pune Lighthouse  
Floating Solar Panels  
Street Art  
Lakefront Development  
Placemaking

# Some key Outcomes...

- Video evidence contributed to reduction of crime rate by 18% (2017-18)
- No. of traffic challans got reduced by 65% between Oct-Dec 2017.

**Rajkot**

- Smart classrooms in 444 secondary classes benefit 23275 students
- New multi-media assisted pedagogy, provision for students to access millions of books online

**NDMC**

- All abilities Park seeks to balance the needs of differently abled without segregating them from the rest of the community.

**Visakhapatnam**

- 240% increase in public transport usage (buses fitted with GPS, PIS, Wi-fi, etc)
- Approx. 1,300 e-challans issued, creating a deterrent for traffic offenders

**Vadodara**

- Free Wi-fi on BRTS corridors led to improved ridership by 20,000 in Mar 2018
- Zero Tolerance Junctions (40+) led to improved traffic discipline

**Ahmedabad**

- Public Bike Sharing - 2,000 cycles available at 100 locations, covering an area of about 3.2sqkm.

**Coimbatore**

- 3,600+ cameras at 690 critical junctions being monitored.
- More than 100 crimes solved by police using camera feeds.

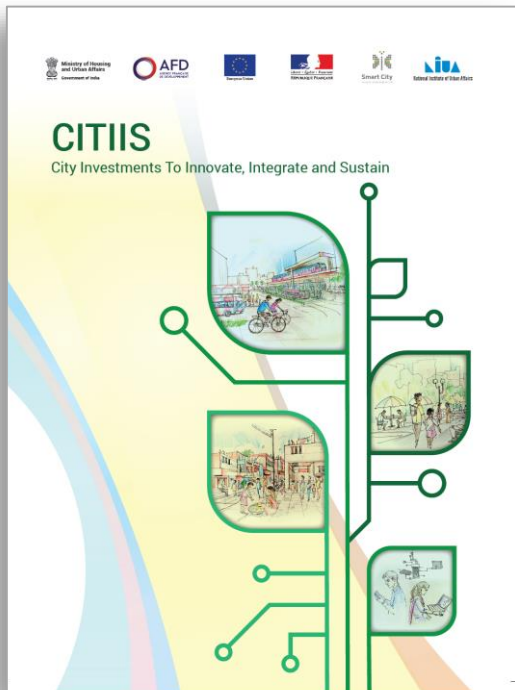
**Nagpur**

- WTE Plant generates 11.5 MW energy by recycling 600 tons of waste per day and reduces >37,000 tons of carbon emission for Jabalpur annually

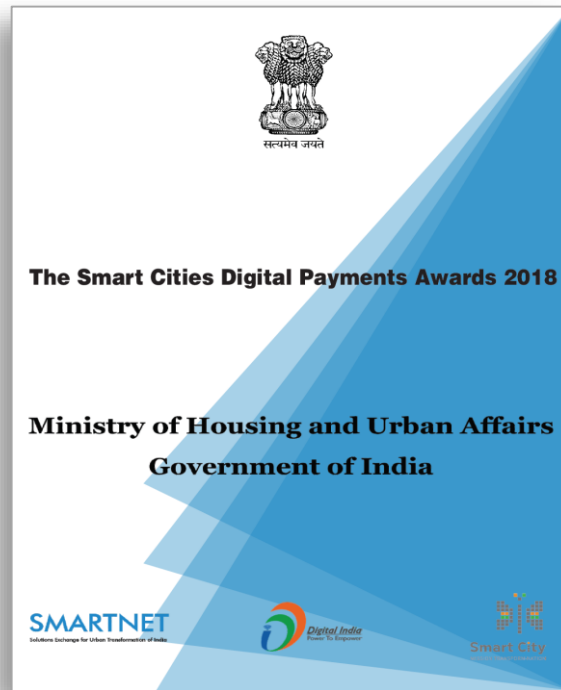
**Jabalpur**



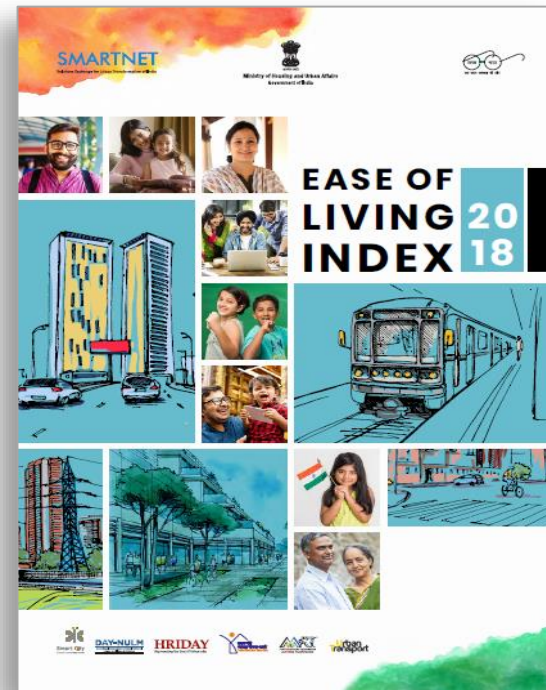
# New initiatives...



CITIIS Challenge



Smart Cities Digital Payment Awards, 2018



Ease of Living Index



India Smart Cities Fellowship & Internship Program

# Implementation

Ease of Living

Walkable Streets, Parks,  
Waterfronts

Smart Governance

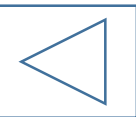
Command & Control  
Centers, Mobile  
Applications

Connected Communities

Smart Schools,  
Heritage, Arts & Culture

Urban Resilience

Solar and Wind Energy,  
Water & Waste Water,  
Waste to Energy



# Implementation

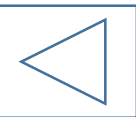
**Ease of Living** ●●●

Walkable Streets, Parks,  
Waterfronts

Connected Communities

Smart Governance

Urban Resilience



# URBAN MOBILITY

Street Redesign, Complete Streets,  
Junction Improvements, Public Bike Sharing,  
Public Transport, Parking Management,  
Multi-modal Transit Hub, E-mobility



Bhopal Smart City developed 12 km dedicated cycle track (6 km on either side of BRTS route) in its effort to promote eco-friendly transport and encourage cycle riding culture in city



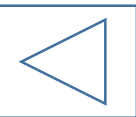
# Pedestrian and Cycle friendly Streets



Pune - Universal accessibility for elderly/physically challenged by providing tactile track



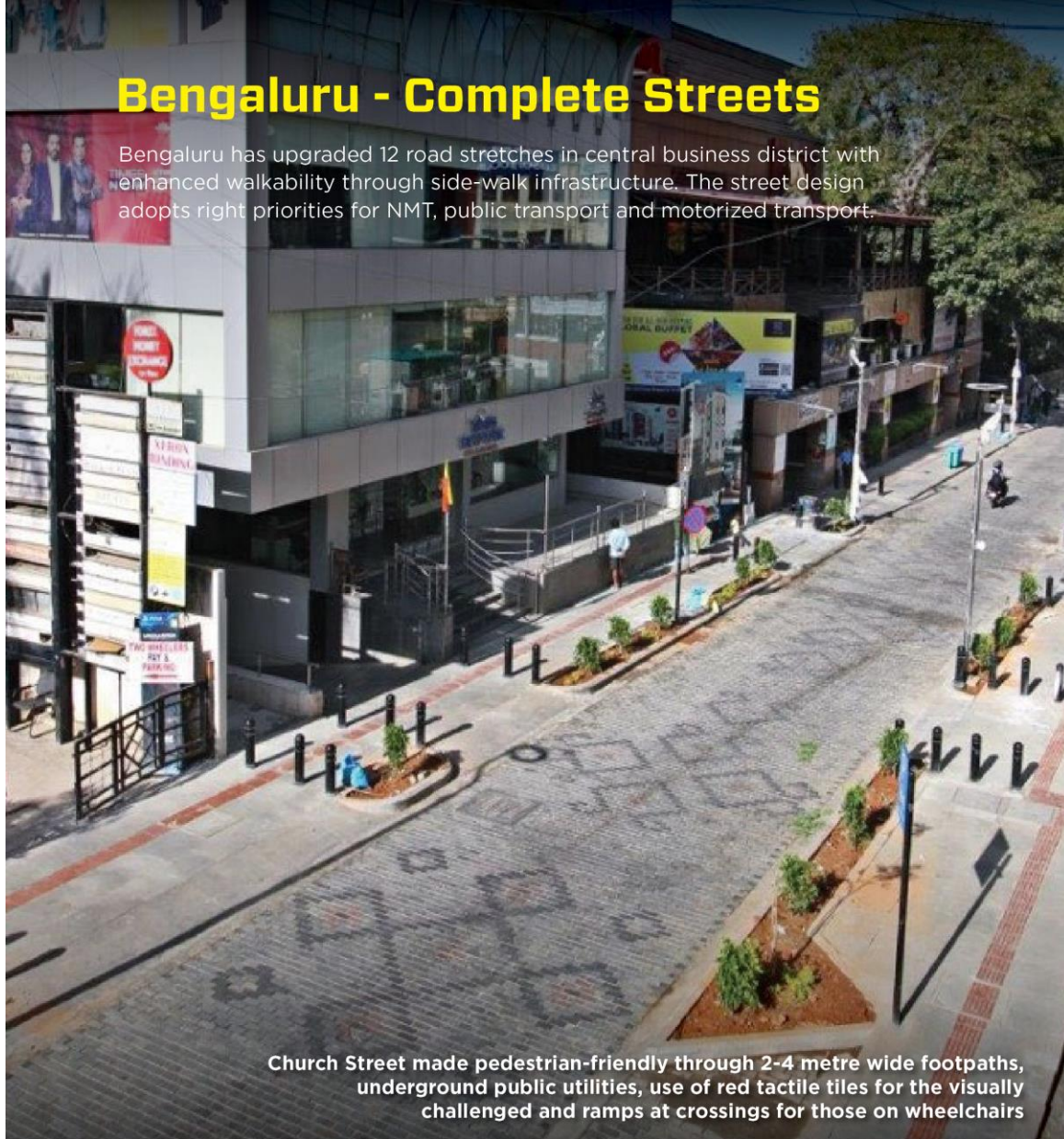
Visually Improved, congestion free & Safer Roads; Improved road junctions



# Pedestrian and Cycle friendly Streets

## Bengaluru - Complete Streets

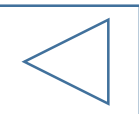
Bengaluru has upgraded 12 road stretches in central business district with enhanced walkability through side-walk infrastructure. The street design adopts right priorities for NMT, public transport and motorized transport.



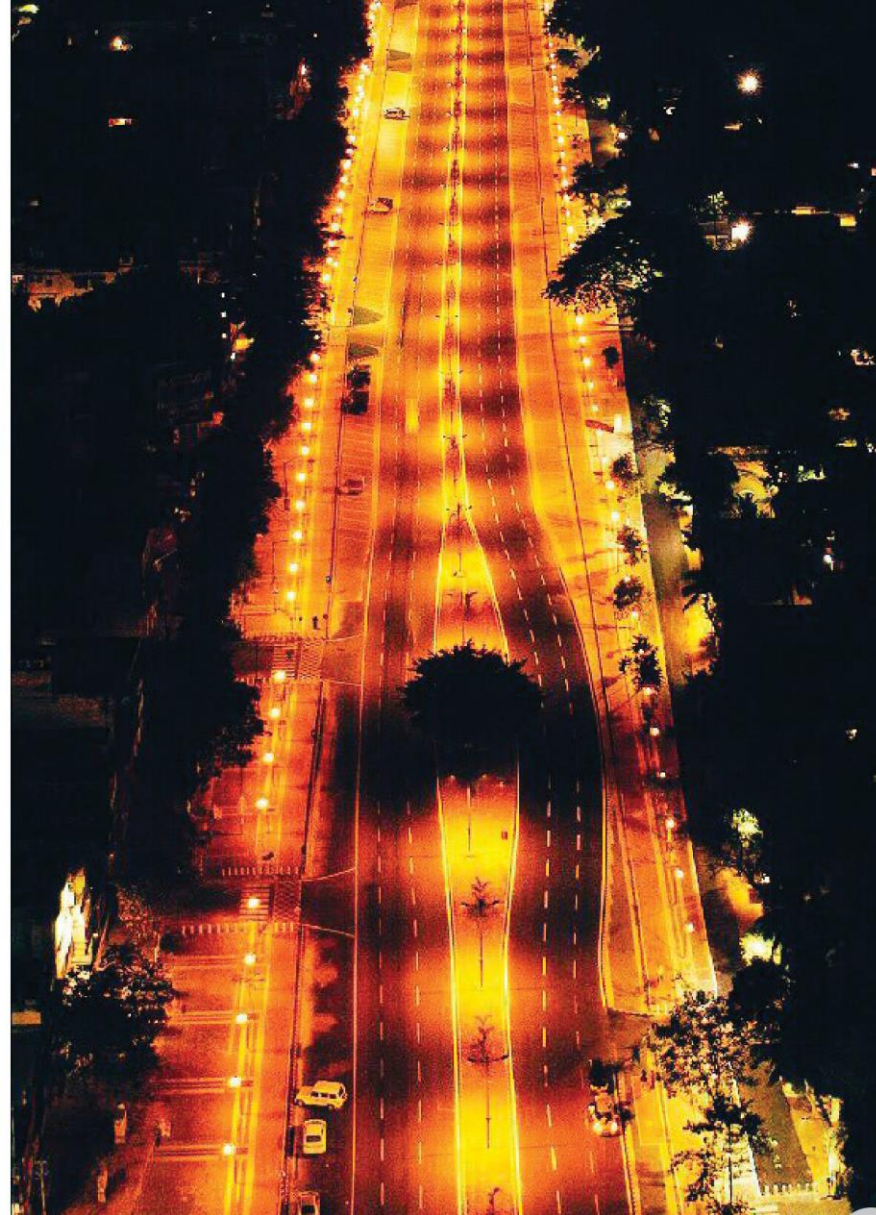
Church Street made pedestrian-friendly through 2-4 metre wide footpaths, underground public utilities, use of red tactile tiles for the visually challenged and ramps at crossings for those on wheelchairs



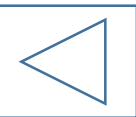
Upgradation of Church Street, Bengaluru



# Pedestrian and Cycle friendly Streets



Smart Janpath Project,  
Bhubaneswar



# Public Bicycle Sharing Program



## Coimbatore - Public Bike Sharing

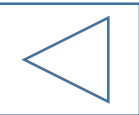
2,000 cycles available at 100 locations, covering an area of about 3.2 sqkm. Cycle sharing in Coimbatore would have multiple benefits for the city - decongestion of roads, non-polluting mode of transport, and healthier way of travel.

42

Coimbatore - Multiple benefits – decongestion of roads, non-polluting mode of transport, healthier way of travel.

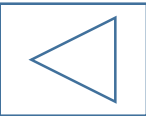


Pune Public Bike Sharing

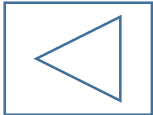




# Public Transport/ Multi-modal Transit Hub



# Smart Parking



# Electric Mobility



## E-mobility

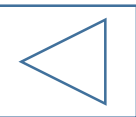
The national government scheme, FAME India [Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India] encourages hybrid and electric vehicles for better air quality in India by providing subsidy on purchase of hybrid and electric vehicles.



Udaipur has explored electric mobility service to promote low-carbon IPT with over 80 E-Rickshaws introduced on city streets since 2017



Kakinada E-Rickshaw Charging Station



# AFFORDABLE HOUSING



Affordable Housing Project, Rajkot





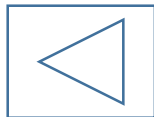
Social Equity Center, Bhubaneswar



Affordable Housing Project, Surat



Affordable Housing Project, Vadodara



# WATER & SANITATION

Water supply,  
Sewerage, Sanitation

Surat Smart City aims to provide 24x7 water supply in ABD area, augmenting the capacity of existing Water Treatment Plant (WTP) of 470 MLD at Sarthana Water Works by 120 MLD. A Zero Liquid Discharge Plant constructed at the same location will recycle the back wash water of WTP, enabling approximately 24 MLD water to be re-used as drinking water



# Water Supply



Ahmedabad – Effective water supply operations with SCADA implementation



Bhopal Water Supply Infrastructure



Bhopal - Improved health & hygiene of community through potable Water Supply



# Smart Water



Guwahati Water ATM at Regional Center, Khanapara – Automated Water Dispensing Units to provide safe drinking water to floating population (at 20 locations)



NDMC Water ATM – Automated Water Dispensing Units to provide safe drinking water to floating population





# Sanitation - Smart Toilets



Bio Toilets near Guwahati Municipal Office



SMART TOILET - FARIDABAD SMART CITY

SECTOR 19, MARKET

Faridabad Smart Toilet at Sector 19 Market



Solapur E-Toilets

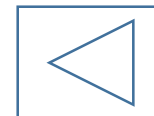


# SAFETY & SECURITY

Surveillance using CCTV, Panic Button, Emergency Call Box



Video feed from public spaces analysed by city police to monitor incidents of crime





Surveillance Operations by City Police Department in Surat



Traffic Violations being monitored in Vadodara



Emergency Call Box and environmental sensors in Vadodara



# VIBRANT PUBLIC SPACES

Waterfronts, Parks, Placemaking



All Abilities Park, Visakhapatnam - the park for all abilities and all age groups is constructed in a manner which would help one in a wheelchair to cover every corner of the place with ease



# Waterfront Development



Warangal - Bhadrakali Lakefront Promenade Project aims to ensure ample recall of elements from city's rich built heritage



Ajmer - Enhanced public realm with the creation of Anasagar lakefront promenade and walkways



# Waterfront Development



Indore Kahn- Saraswati Riverfront development



Indore - Cleaning and widening of river, development of parks and walkability around river, environment & social Impact



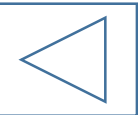
# Integrated Area Development



Bhopal ABD - Compact and mixed land use; range of housing opportunities and choices; walkable neighborhoods



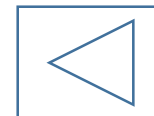
Coimbatore Lakefront - Mobility corridors to connect the different lakes, waterways and other streets





## Pune - Placemaking

Un-utilised land parcels (about 50 sites measuring 600 to 1000 sq. m each) being converted to vibrant public open space meeting the needs of local residents.





## Development of Parks and Open Spaces



All Abilities Park, Visakhapatnam



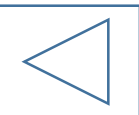
All Abilities Park, Visakhapatnam



Smart Park, Bhubaneswar




Public Park, Bhubaneswar



# Implementation

Ease of Living

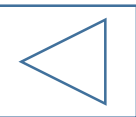
**Smart Governance** ...



Command & Control  
Centers, Mobile  
Applications

Connected Communities

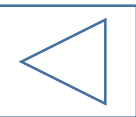
Urban Resilience



# Integrated Command & Control Centers



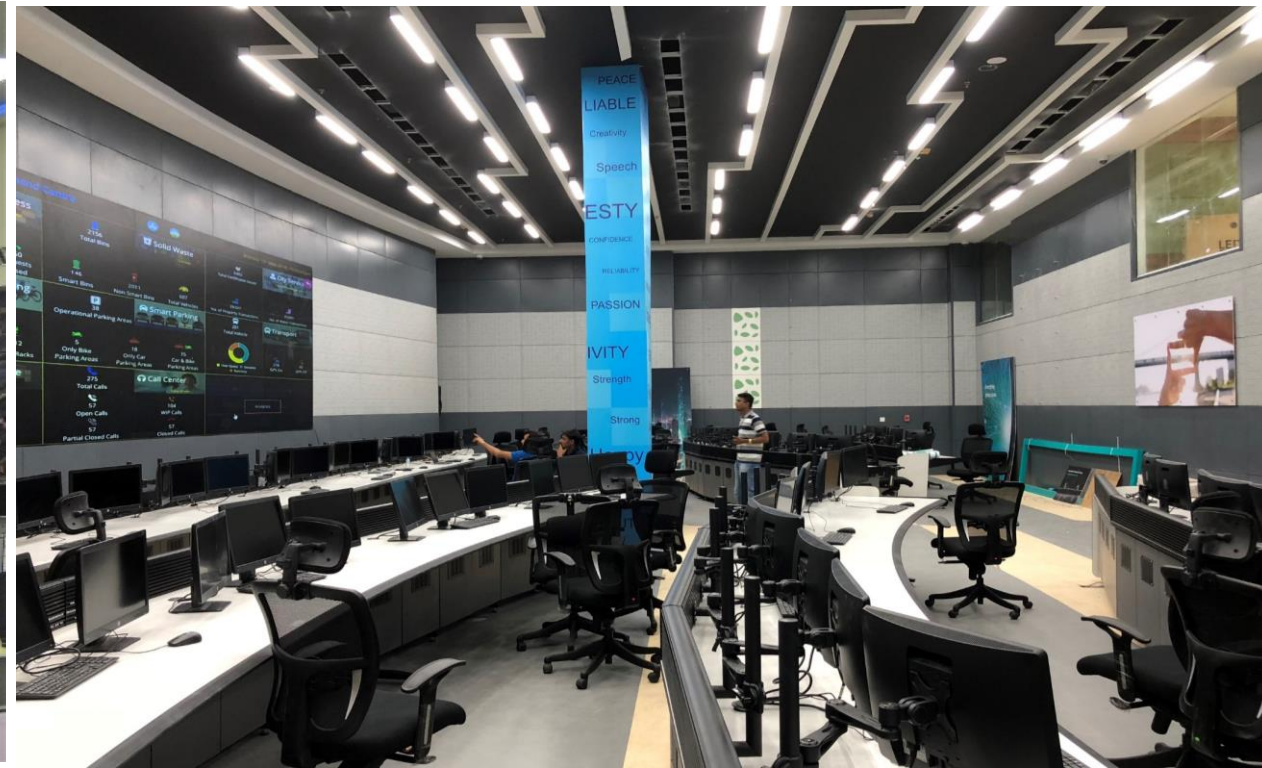
Integrated Command and Control Center (ICCC) in Bhubaneswar Smart City integrates various city functions



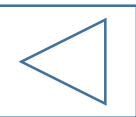
# Integrated Command & Control Centers



Visakhapatnam ICCC - Smart Poles & Environmental Sensors at 50 locations monitor real-time pollution



Bhopal ICCC - Online City bus transport operations (from Smart City Center) monitor various outputs



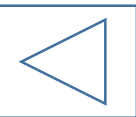
# Integrated Command & Control Centers



Vadodara - 240% increase in public transport use after introducing buses with GPS, PIS & Wi-Fi



Rajkot - Using undeniable video evidences, crime Rate reduced by 18% over 2 quarters (Apr'18)



# Smart Cards & Mobile Applications

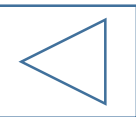


## Janmitra Mobility Card, Ahmedabad

Card can be used across public transportation modes like bus, metro, water metro and also for mercantile and internet transactions; Enhanced commuter experience, cashless transactions



**NDMC 311:** Project Cost: 45 lakhs;  
Implementation Status: Work Ongoing



# Ahmedabad ITMS



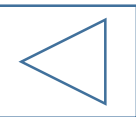
## BENEFITS OF INTELLIGENT TRANSIT MANAGEMENT SYSTEM (ITMS)

Live Bus Tracking with Automatic Vehicle Location System (AVLS)

Tracking of SMC vehicles working in the field

Increase security and traffic enforcement

Mobile application and website to help citizens about schedules of BRTS and city buses.




# Implementation

Ease of Living

Smart Governance

**Connected Communities**



Smart Schools,  
Heritage, Arts & Culture

Urban Resilience





# Smart Classrooms/ Smart Campus



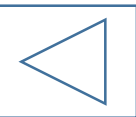
Kakinada - Smart Classrooms for better ambience, enabling environment, health & hygiene



Visakhapatnam - Smart Campus



New Delhi - Smart classrooms in 444 secondary classes benefit 23,275 students



# SKILL DEVELOPMENT



Lighthouse, Pune

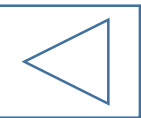




## Lighthouses of Pune

Pune has created a unique model through Lighthouse Program to uplift and upskill the urban poor youth and give them an opportunity to be gainfully employed and progress across multiple dimensions. Lighthouse is an important initiative targeted at youths residing in slum areas, upskilling them and preparing them for long term career opportunities.

Pune Lighthouses empower unprivileged youth for sustainable livelihood generation



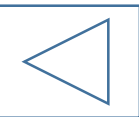
# Economic Development



" BHOPAL INCUBATION CENTRE "

Pune Lighthouses empower unprivileged youth for sustainable livelihood generation

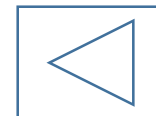
B NEST Incubation Center - Space designed to inspire entrepreneurs, enterprises & government leaders



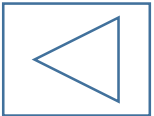
# PUBLIC ART



Street Art and Mural Project (STAMP), Bhubaneswar



# Street Art and Mural Projects



# BUILT HERITAGE



Restoration of Surat Castle



# Conservation of Built Heritage



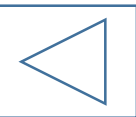
Rajasthan School of Arts, Jaipur -  
The museum to be a microcosm of  
the best of Indian artistic practice



Preserving city identity and culture –  
Varanasi



Preserving city identity and culture –  
Varanasi





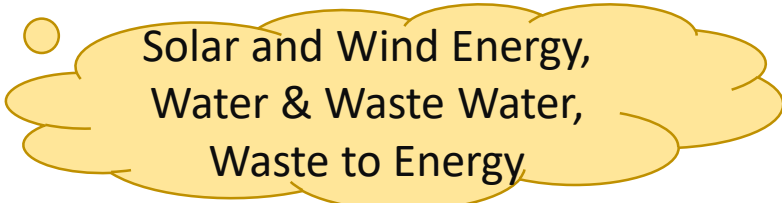
# Implementation

Ease of Living

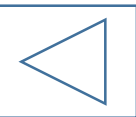
Smart Governance

Connected Communities

**Urban Resilience** • •



Solar and Wind Energy,  
Water & Waste Water,  
Waste to Energy



# Solar Rooftop



Diu is the first district in India to run on 100 % renewable energy in daytime



Jaipur Solar rooftop -1.1 MW energy produced from four public buildings brought down their electricity bills





Solar Rooftop on Public Buildings, Vizag

Rooftop on parking lot of Municipal Building, Visakhapatnam



Floating Solar on Mudasarlova Reservoir, Visakhapatnam



Floating Solar, Vizag

Solar Tree, Coimbatore

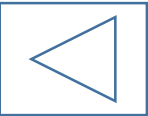
Solar Tree, Coimbatore



# Waste to Energy Plant, Jabalpur



# Bio Gas Power Plant, Surat



# City Presentation