



Andhra Pradesh Pollution Control Board

Nomination for National Awards for e-Governance 2019-20: Real Time Pollution Monitoring System (NAeG/19-20/00209)

13th January, 2020



APPCB as a regulator

Key functions and duties of the Board

About APPCB

- Andhra Pradesh Pollution Control Board (APPCB) is a statutory body, constituted in 1976.
- APPCB as a regulatory body is empowered to implementing environmental policies, laws regulations and developing frameworks for Industries, Municipal Corporations, Hospitals and other agencies w.r.t pollution & waste management.

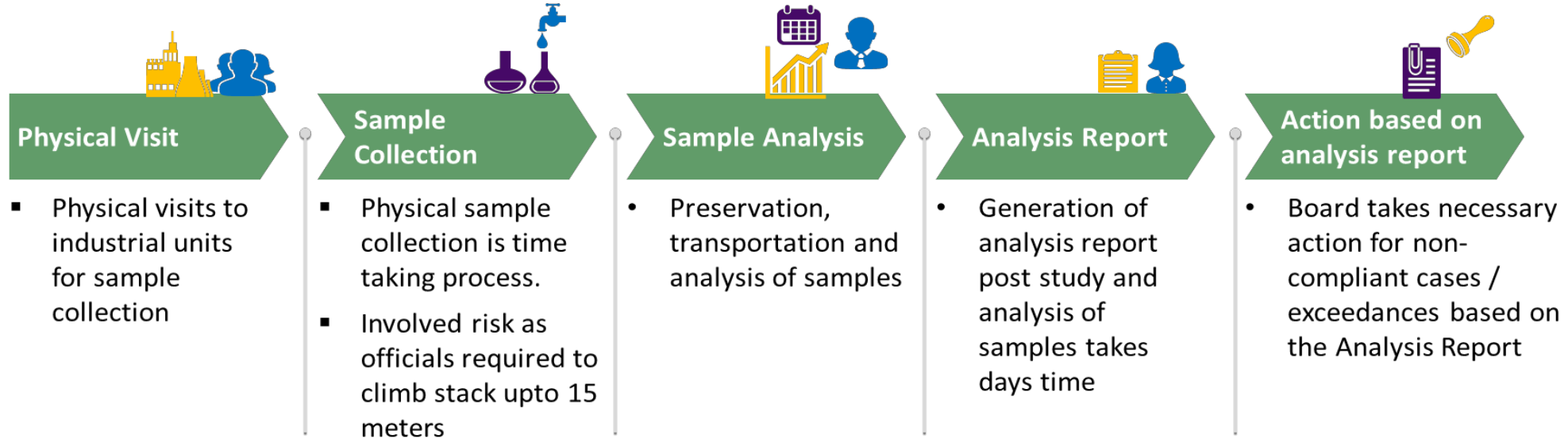
Functions of APPCB

- Environmental planning
- Sanction of CFE & CFO
- Regulatory Inspection
- Waste Management
- Environmental Monitoring
- Grievance redressal
- Coordination with legal bodies
- Awareness programmes
- Capacity building



As-Is Process

Industrial Monitoring before implementation of RTPMS



Limitations of manual Industrial Monitoring

Need for RTPMS

Challenges

More time for the Lab Analysis & Reporting

INR 1.25 crores spent on comprehensive industrial inspections

Decision making is difficult



1. Eliminate manual intervention
2. Initiate self-monitoring regime
3. Efficiency in time & cost
4. Remove manipulation of data
5. Improve transparency



Analysis results are available online 24*7

INR of 1.5 lac / month i.e. 18 lac / annum incurred is on O&M

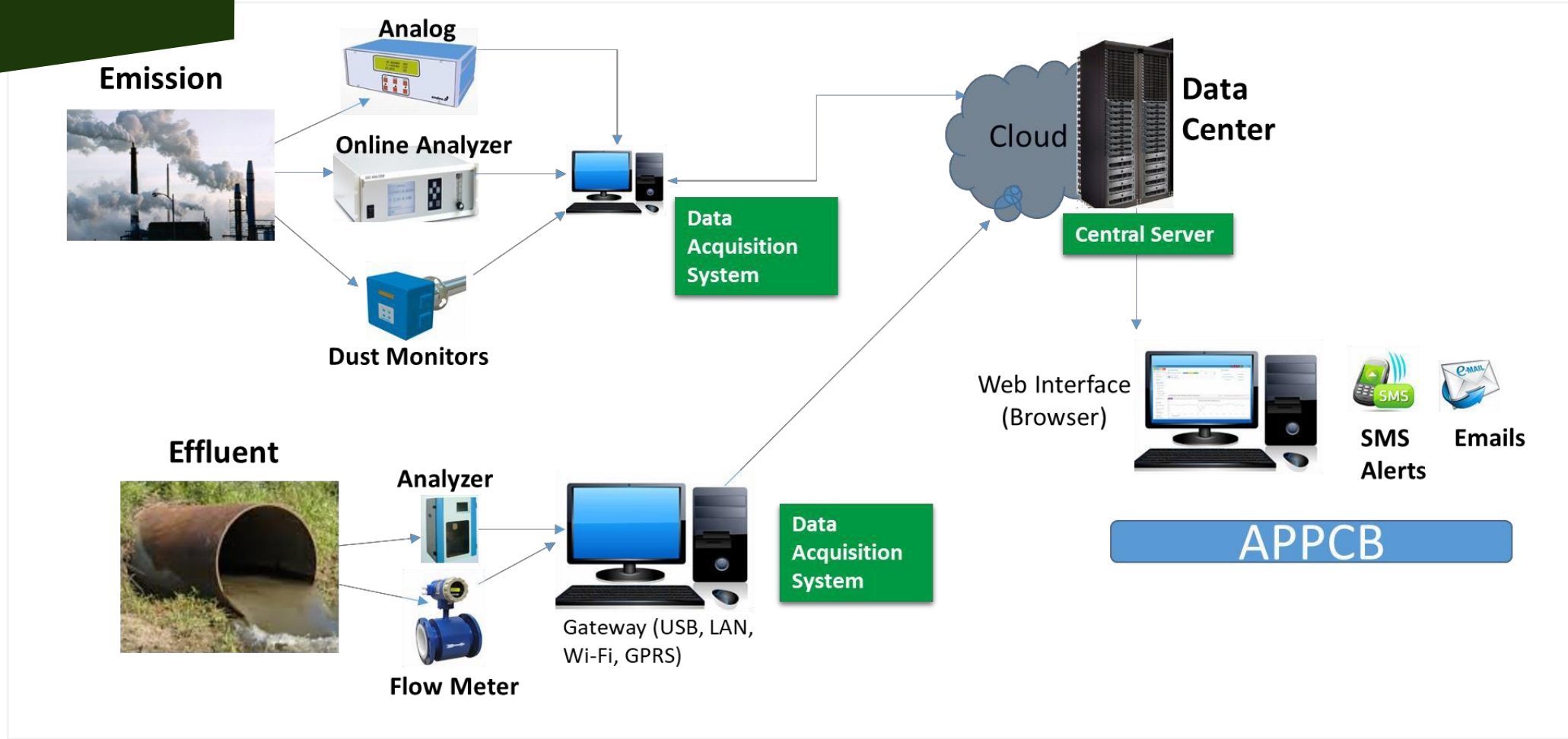
Faster decision making with data access at fingertip

Outcomes

RTPMS

What is RTPMS: To-Be Process

RTPMS overview

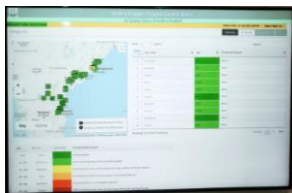
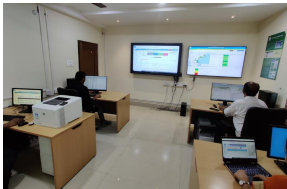


What is RTPMS: To-Be Process

Real time online monitoring using RTPMS

Remote Monitoring

- APPCB officials are now monitoring highly polluting industries remotely from Head Office



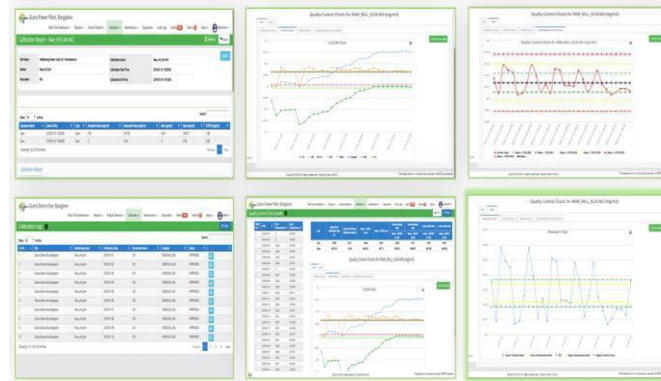
Emission / Effluent Devices

- The Industrial units are using emission / effluent monitoring devices to track the compliance levels



APPCB servers

- The devices are linked to APPCB's servers and update live data related to the emissions / effluents



Generate MIS in real time

- APPCB officials can generate report by logging in the RTPMS using authentic credentials

Action based on real time data

- Using RTPMS, APPCB officials can now take quick actions based on the MIS reports reflecting real-time data

S.No	Site Name	District	Category	Parameter Name
1	Ramky Pharmacy India Ltd.	Visakhapatnam	CETP	COD
2	Ramky Pharmacy India Ltd.	Visakhapatnam	CETP	BOD
3	Andhra Organics Ltd.	Sriakulam	Drugs & Pharmaceuticals	COD
4	Mylan Laboratories Limited - Unit 8	Vizianagaram	Drugs & Pharmaceuticals	BOD
5	Deccan Fine Chemicals India Pvt.	Visakhapatnam	Pesticide	COD
6	Brandix India Apparel City Pvt. Ltd.	Visakhapatnam	CETP	COD
7	Andhra Organics Ltd.	Sriakulam	Drugs & Pharmaceuticals	BOD
8	Brandix India Apparel City Pvt. Ltd.	Visakhapatnam	CETP	BOD

Maximum Threshold Limits	Units	Total Exceedance Count	15min Avg	Number of times of Exceedance	Total Period of Exceedance HH:MM	Maximum Exceedance Value
250 mg/l		28		19	7.00	873
100 mg/l		22		16	5.30	345
250 mg/l		17		11	4.15	600
100 mg/l		5		2	1.15	100
225 mg/l		4		3	1.00	302
250 mg/l		2		1	0.30	1829
75 mg/l		1		1	0.15	75
100mg/l		1		1	0.15	219

What is RTPMS: To-Be Process

Two basic types:



In-situ



Extractive

- In-situ:**
- Folded Beam
 - Cross Duct

- Extractive:**
- Hot/Wet (Using Heated Analyzers)
 - Dilution
 - Drying system :
 - Cooler
 - Dryer (Permeation)



Multigas Analysers



In Situ Analyzers



Integrated indoor cabinet



FTIR-based analyzer



Dilution Based Analyzers

What is RTPMS: To-Be Process

- UV Spectrophotometry
- UV-Visible Spectrophotometry
- Combustion Catalytic Oxidation
- UV Persulfate NDIR Detector / Persulfate Oxidation at 116-130degC
- Nephelometry Method
- Calorimetric
- UV Absorbance or Multiple Wavelength
- Ion Selective Electrode method
- Wet chemical oxidation
- High temperature catalytic combustion oxidation
- IR light absorption



What is RTPMS: To-Be Process

- 846 analyzers are transmitting emission parameters
- 410 analyzers are transmitting the effluent parameters
- 533 analyzers are transmitting the ambient air quality
- Issuing SMS alerts to industries
- Issuing SMS alerts to field officers
- Auto generation of notices
- Dissemination of data on public domain

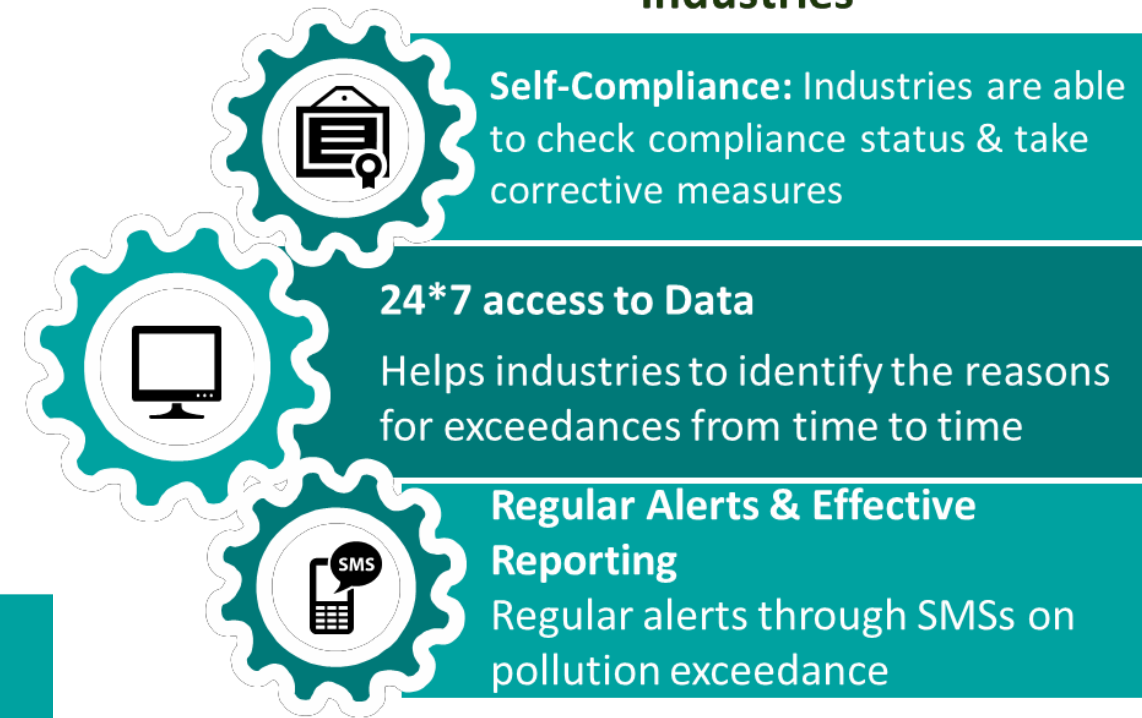


RTPMS: Advantages

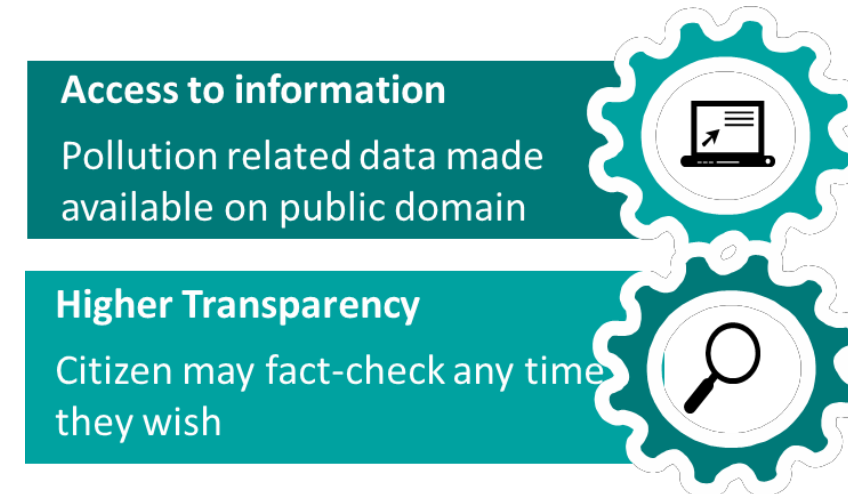
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Industries



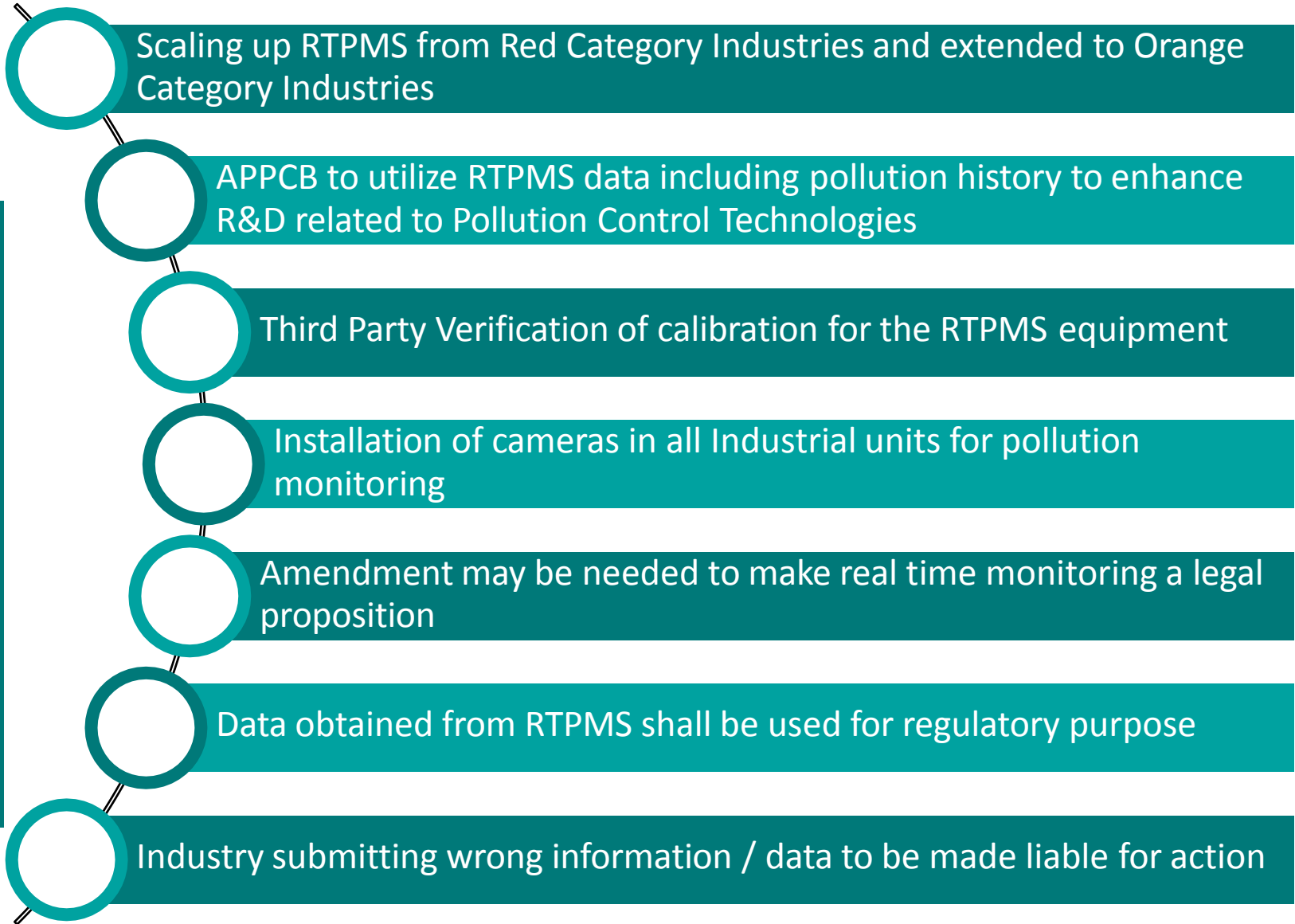
Citizens



Way Forward

Taking RTPMS to next level

- Indian Certified devices are not available in market
- Continuous Water Quality Monitoring System (CWQMS) and approval is a big issue
- Presently, India has allowed non-certified instruments in real time industrial monitoring till Indian certification system is established
- Data transmission in remote areas due to poor connectivity
- Maintaining zero downtime



Thank You

