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Ministry Of Communications & Information Technology  
Department of Telecommunications

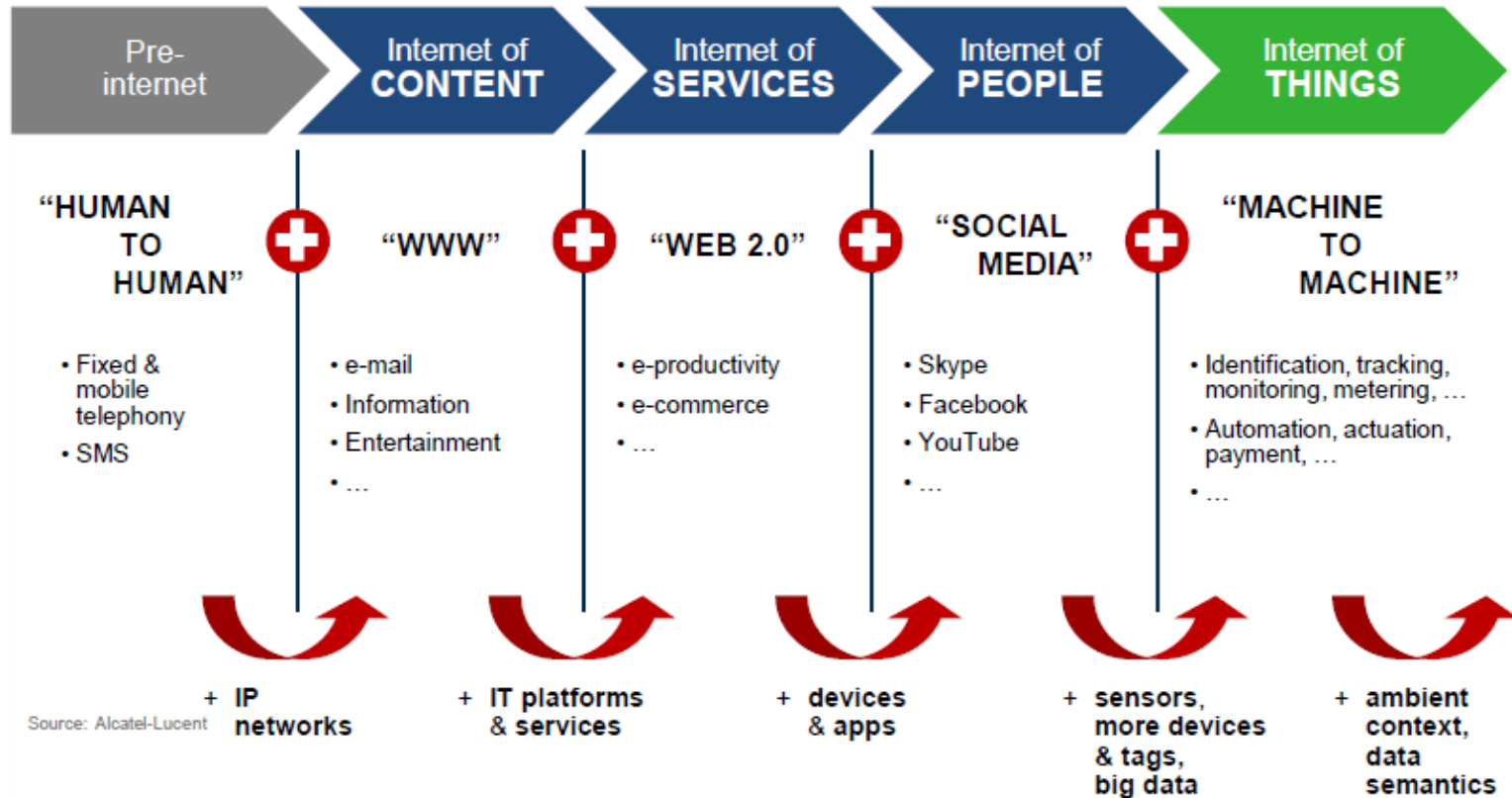
# Presentation on National Telecom M2M Roadmap

12<sup>th</sup> May 2015



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# M2M Or IOT – The Evolution



Source: Alcatel-Lucent

The **Internet** gave us the opportunity to connect in ways we could never have dreamed possible.  
The **Internet of Things** will take us beyond connection to become part of a living, moving, **global nervous system**



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# M2M/IOT

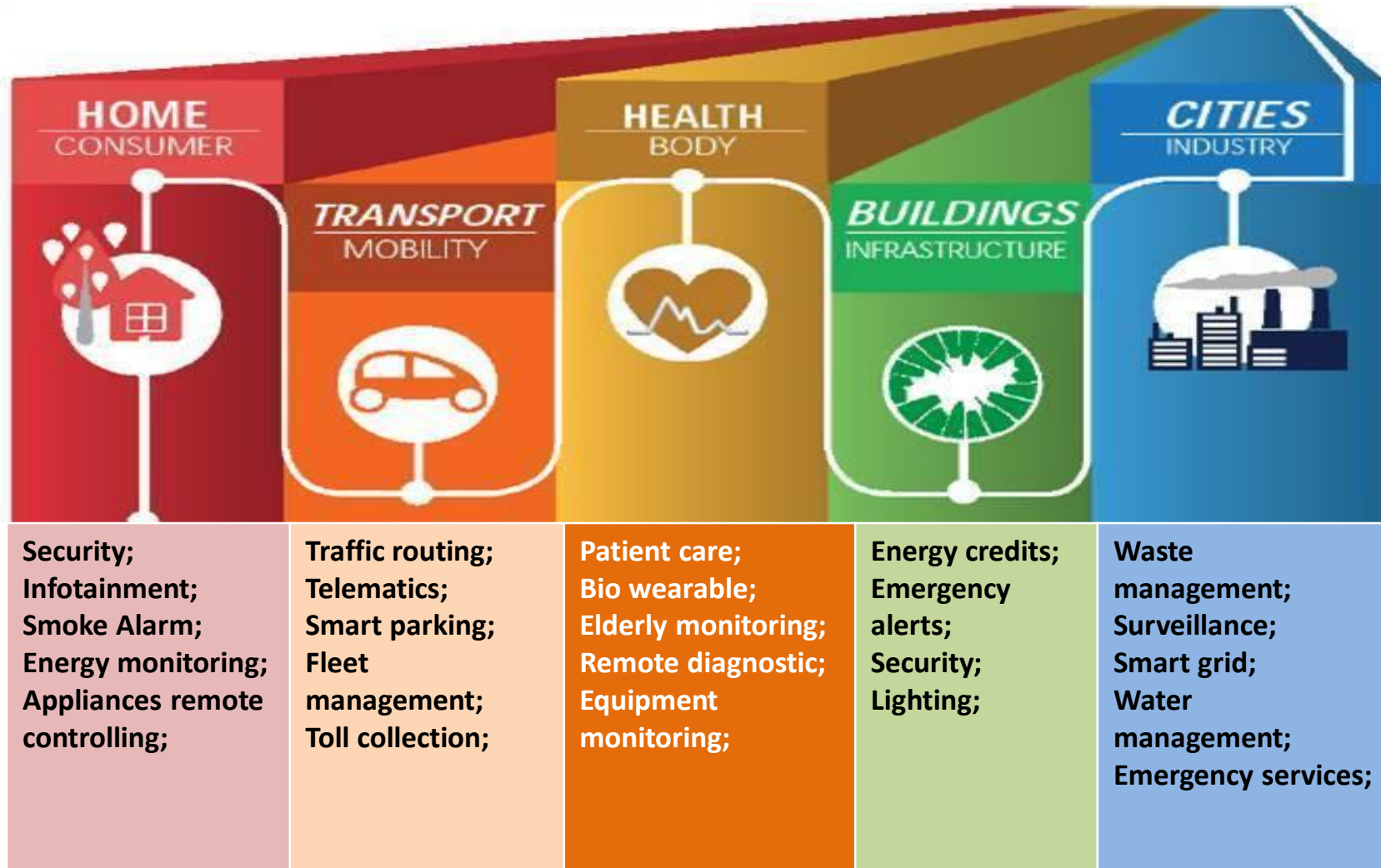
- Machine-to-Machine (M2M) communications are automated applications which involve machines or devices communicating through a network without human intervention.
- M2M is the basis for automated information interchange between machines and a control center for various industry verticals like Smart City, Smart Grid, Smart Water, Smart Transportation, Smart Health etc.
- M2M uses a device (such as a sensor or meter) to capture an event, which is relayed through a network (wireless, wired or hybrid) to an application, that translates the captured event into meaningful information.
- M2M can bring substantial and tangible social and economic benefits to consumers, businesses, citizens and governments.



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# M2M – What It Can Do





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# M2M – What It Can Do

## AGRICULTURE



Smart irrigation;  
Real-time weather data;  
Remote monitoring of insect  
count ;  
Monitoring of fertilizers waste

## POWER

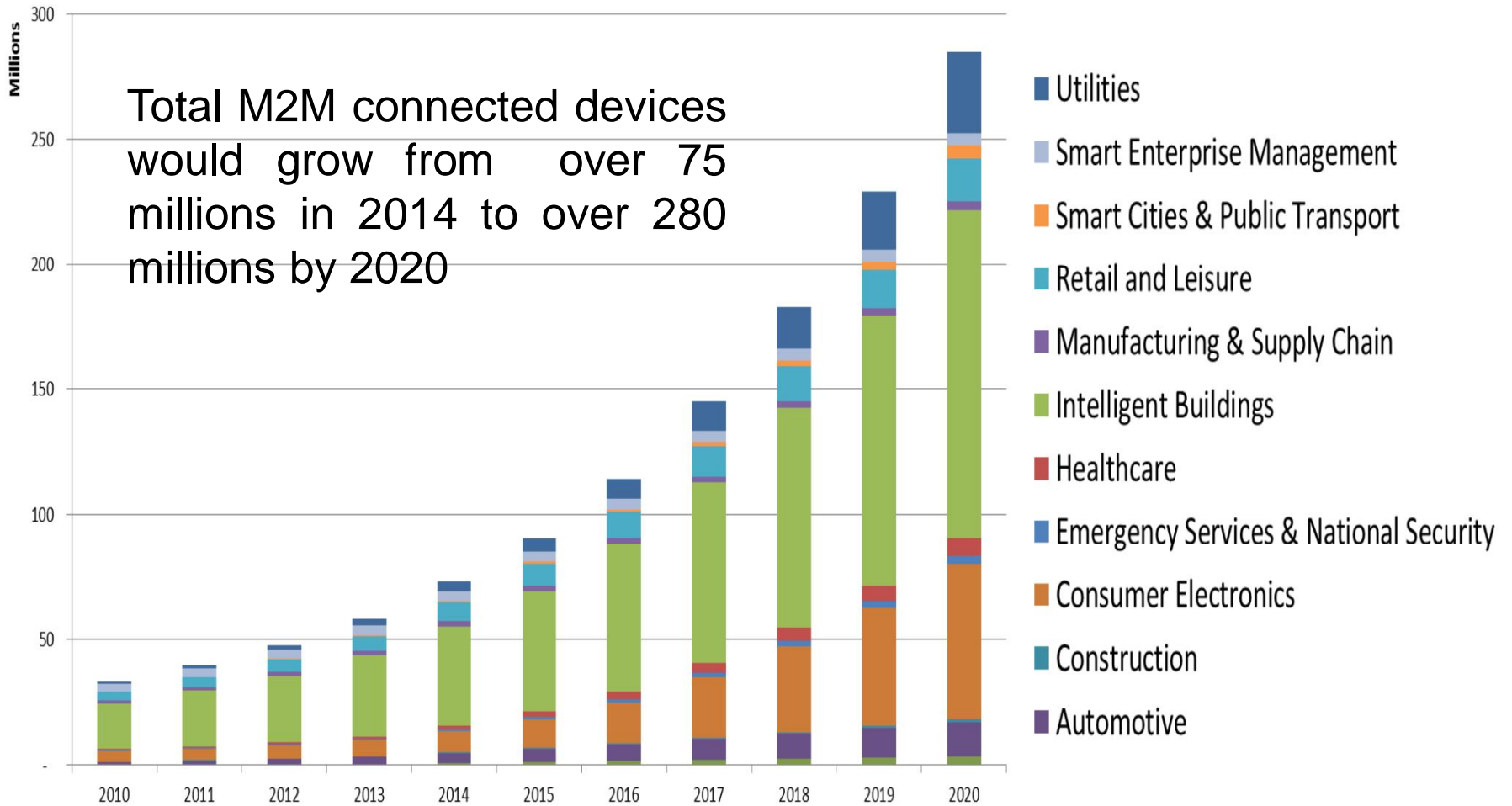


Flexible charging;  
Real time troubleshooting;  
Reliability;  
Cost savings;  
Environment friendly;



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# M2M India Status & Forecast





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# Challenges Towards M2M Rollout

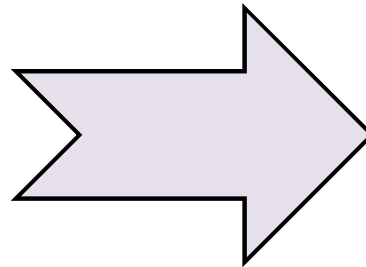
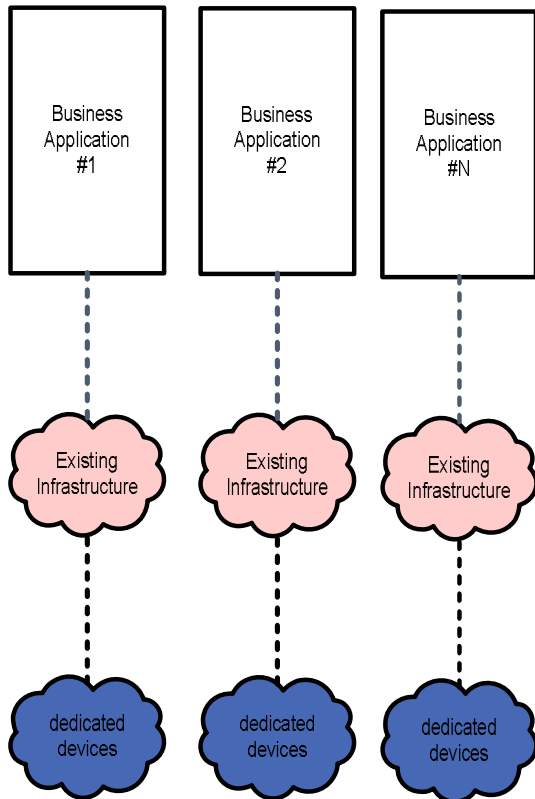
- Treatment of physical and digital infrastructure as two distinct, disjoint entities
- Propriety implementations impeding full potential benefits from M2M
- Lack of Common Standards challenge to Economy of scale, interoperable & resulting in cost escalation
- Different set of Regulatory environment for M2M communication.
- Lack of Coordination among stakeholders



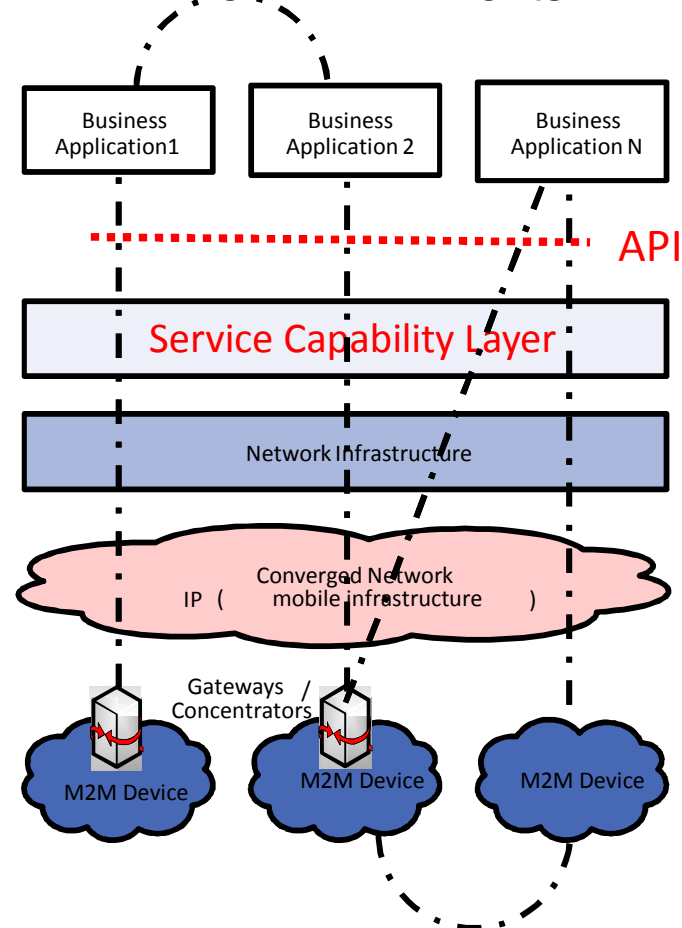
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# Open, scalable, Interoperable networks requirements

Existing proprietary vertical applications



Applications share common infrastructure, environments and network elements

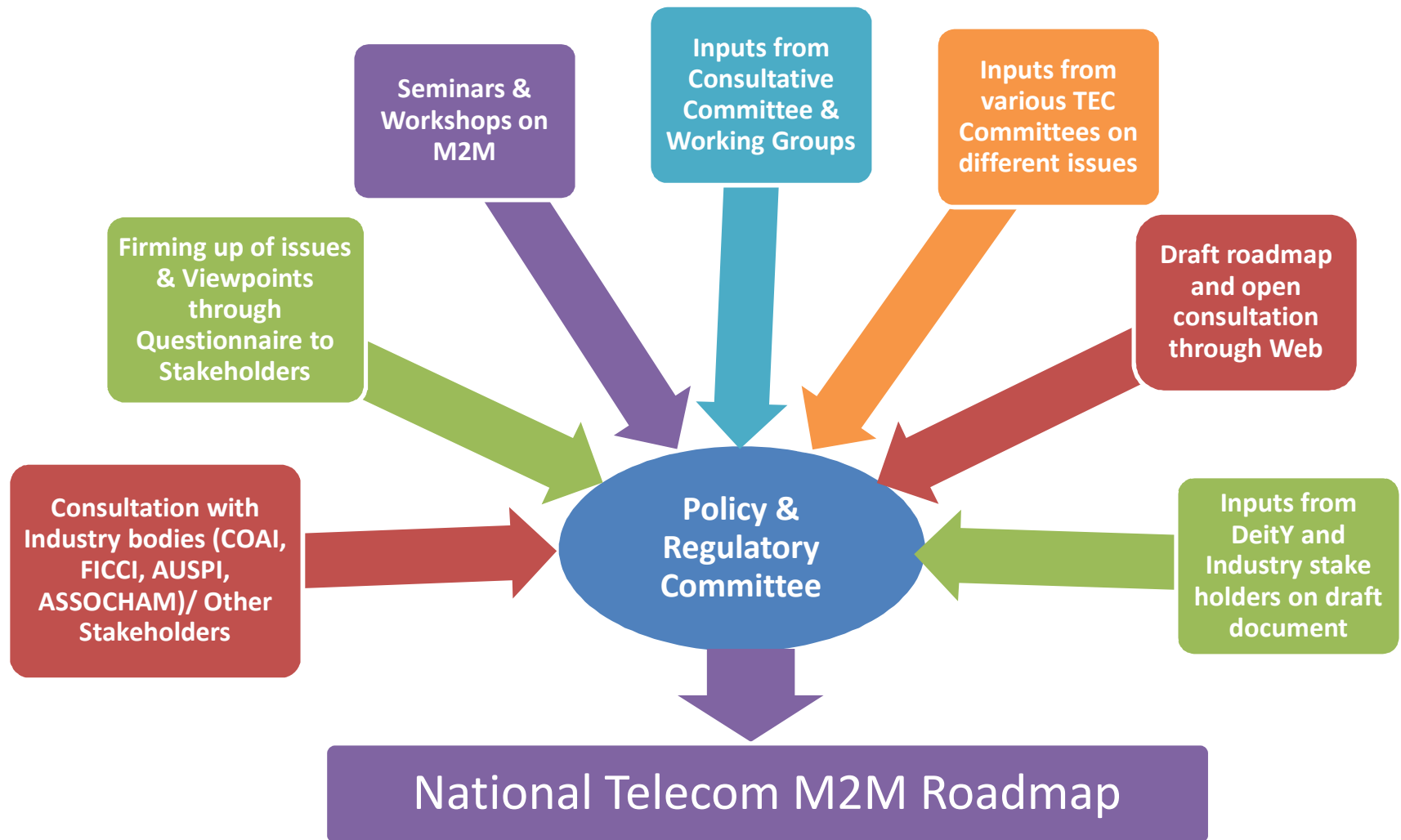






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# Process of M2M Roadmap Formulation





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## M2M Roadmap: Focus Areas

- “ Efforts towards Assimilation of various M2M standards
- “ Outline of policy and regulatory approaches for M2M
- “ Plans to boost M2M manufacturing as part of ‘Make in India’ initiative
- “ Building M2M Communication Infrastructure
- “ Road Ahead for M2M initiatives and Plans
- “ Approach towards M2M adoption in different sectors of economy.



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# Policy & Regulatory Features of Roadmap

- “ **KYC Norms for M2M**
- “ **M2M SIMs with International Roaming state**
- “ **Soft, Embedded & Virtual SIMS in M2M**
- “ **M2M Service Providers (MSP)**
- “ **Numbering Related Issues**
- “ **Roaming issues in M2M**
- “ **Location and connectivity issues**



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## APEX body at national level for M2M Coordination/ Implementation

- ✓ To have an integrated approach
- ✓ Address Existing Connectivity Gaps
- ✓ Enable cross organizational initiatives to gain synergies and achieve transformations.
- ✓ Enable Information sharing and anticipate changes
- ✓ Productive use of Multi sectoral expertise
- ✓ Promoting collaboration between public and private sectors for M2M services



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# M2M Road Ahead

- ❖ To facilitate M2M communication standards
- ❖ National M2M Numbering Plan
- ❖ M2M Quality of Service aspects
- ❖ M2M specific KYC, SIM Transfer, International roaming etc
- ❖ M2M specific spectrum requirements including frequency bands for PLC communication



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## M2M Road Ahead – Contd.

- ❖ M2M Product Certification process and responsibility centers
- ❖ M2M Pilot projects- through CDoT & Centre of Innovation
- ❖ Measures for M2M Capacity building
- ❖ To facilitate development of Indigenous products
- ❖ Guidelines for energy rating & EMF radiation



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# Conclusion

The 'National Telecom M2M Roadmap' will lead to

- A reference document to all M2M eco system stakeholders in India
- A single Government interface for optimum planning of networks in smart infrastructure
- Unambiguous roles and responsibilities for various stakeholders including Government bodies for harnessing full M2M potential
- Facilitate in realizing the policy goals of [Make in India](#) and [Digital India](#)



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# Thank you