

What is the 5G Network impact on the IoT Market?

Presented By Gabriel Antonio Marão

in Behalf of José Gontijo – Director of
Department of Science, Technology and
Digital Innovation - MCTIC



MCTIC – Ministry of Science, Technology, Innovations
and Communications

SEPOD – Secretariat of Digital Policies

IoT Chamber brings together government, private sector,
academia and R&D institutions to discuss the issue



IoT Chamber
Coordinated by
SEPOD/MCTIC

Decree nº 8.234/2014

More than 60 institutions

Centralizes and aligns IoT
initiatives since 2014

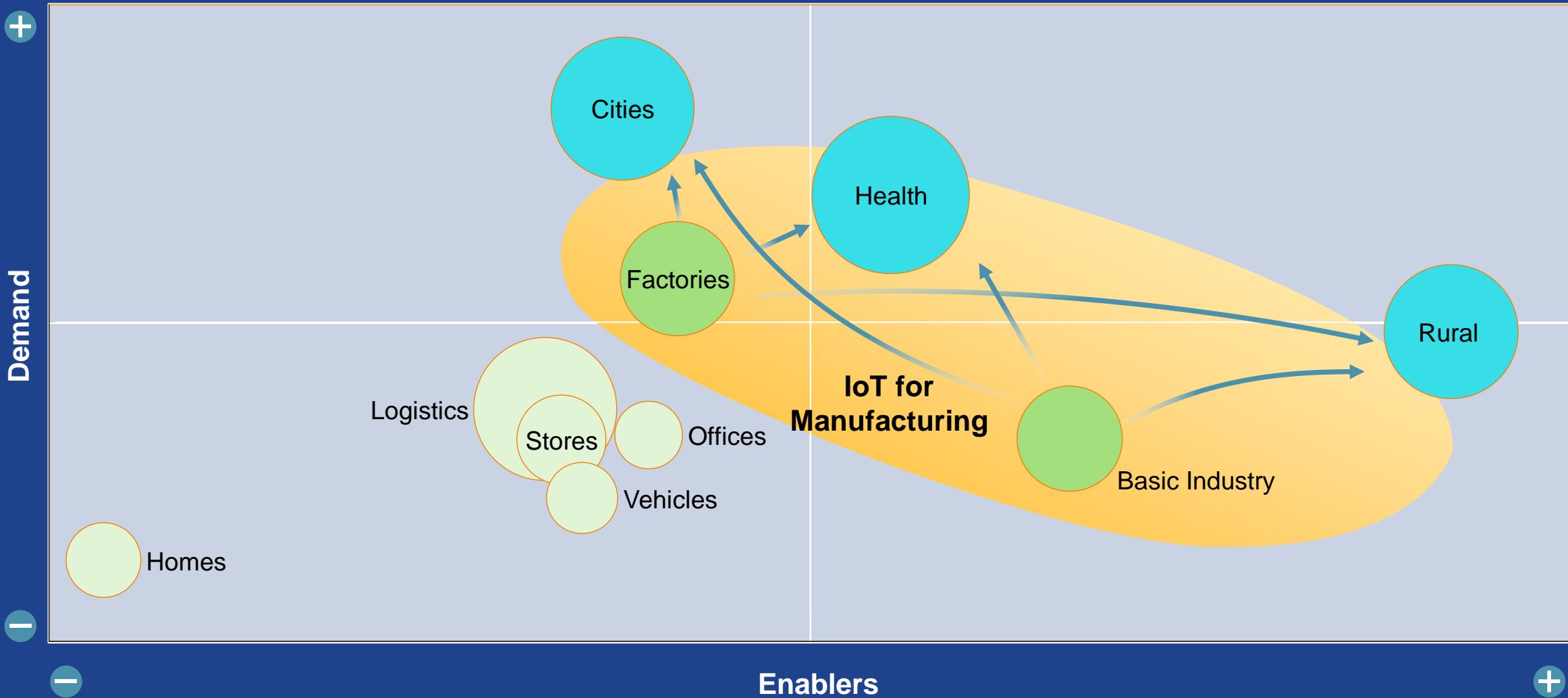
On phase I we developed a comprehensive view on the world and a diagnostic for Brazil to define IoT settings and aspiration



On phase II the prioritization matrix highlighted three Priority Fronts and one Mobilizing Front within IoT

Demand x Development Capacity x Supply (size of circle)

- Priority Front
- Mobilizing Front



Four prioritized settings

Smart
Cities



Health



Rural



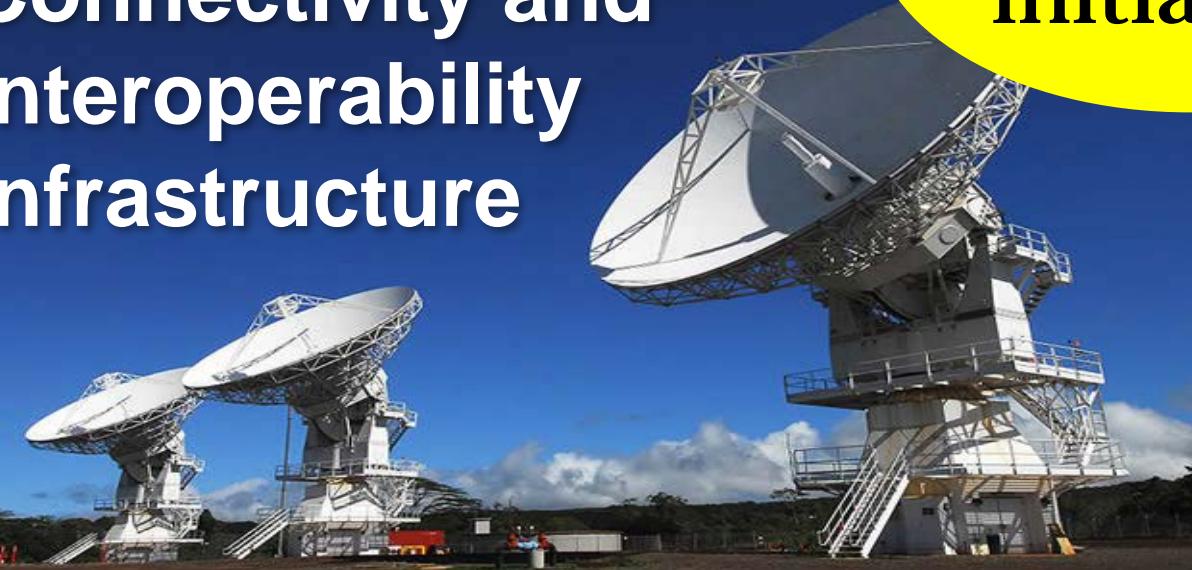
Industry



Human Capital



Connectivity and
Interoperability
Infrastructure



Innovation and International Inclusion



Regulatory, Safety and
Privacy



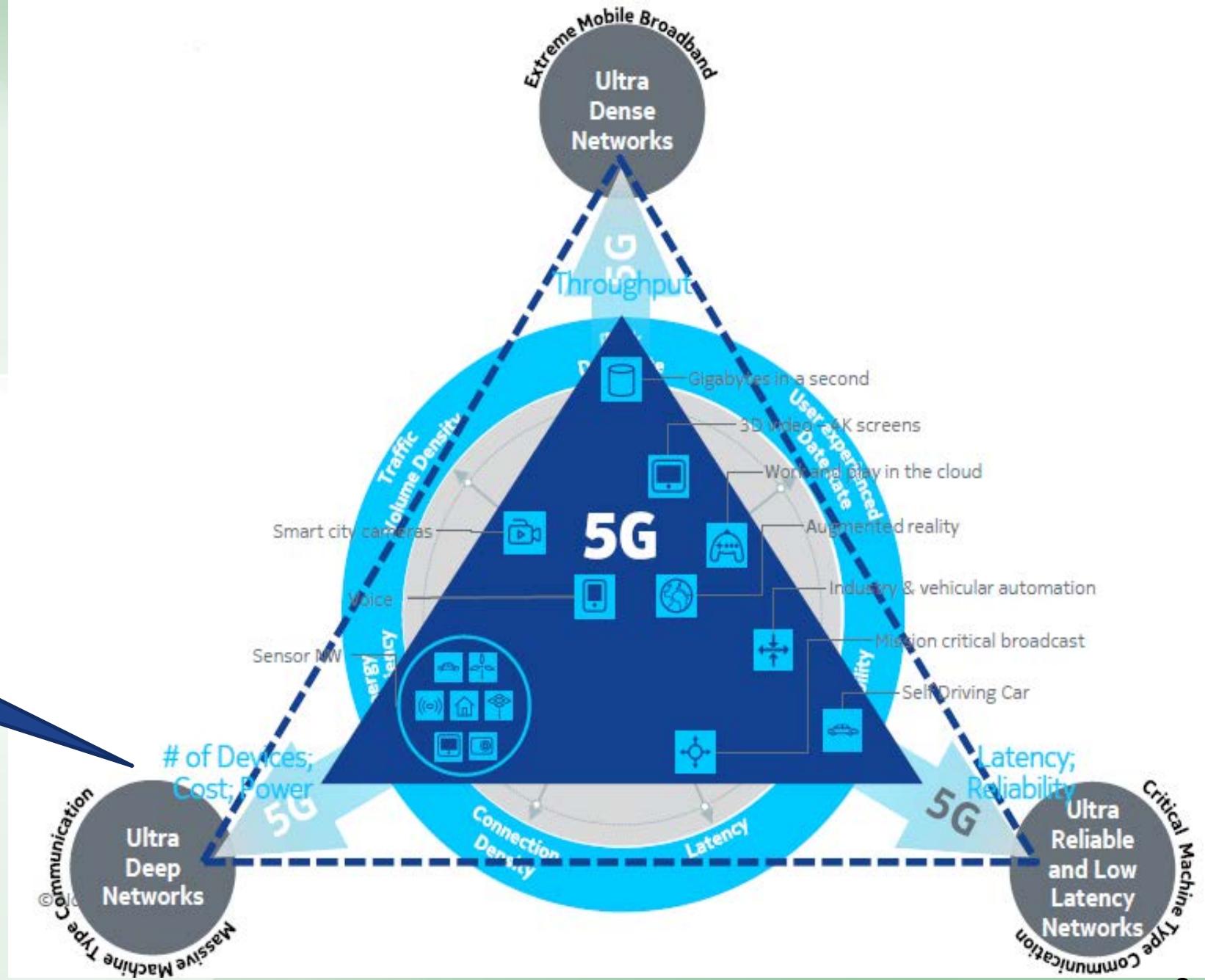
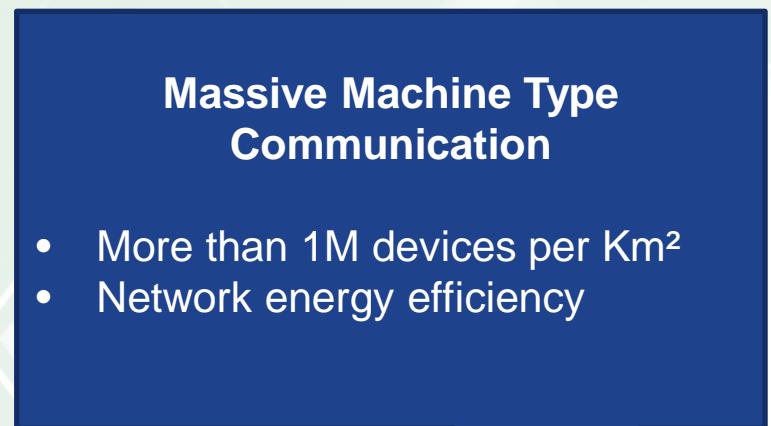
60
initiatives



Connectivity and Interoperability Infrastructure

- Expand the offer of communication networks in accordance with the demands for IoT services
- Articulate the IoT theme in public policies for expanding solutions and infrastructure for connectivity
- Encourage and promote the interoperability and standardization of IoT networks, devices and solutions

IMT-2020 Requirements



5G Requirements for Brazil - Three to four pillars

5G for Remote Areas

- Larger number of new customers spread in remote areas.
- Larger coverage por 5G.

5G Architecture Proposal

5G for Remote Areas

Large coverage.
Sparse network nodes.
Scarce backhaul links.



Sub-1GHz operation
High transmission power
High propagation delay
Interference management
Integration with satellite backhaul

Enhanced Broadband
10 Gbps with high cells density
mmWave.
Fragmented spectrum



Ultra-Reliable
Latency < 1ms.
Robustness.

Massive MTC
Multitude of devices.
Loose synchronization.
Low energy.

Priority verticals for 5G in Brazil

Agribusiness

- Planting crop sensing.

Basic Industries and advanced manufacture

- Mining
- Oil and Gas
- 4th Industrial Revolution

Logistics

- Logistics of cargo, including storage at source and destination, transportation and distribution

Health

- including health logistics, remote medical care and public health

Public Security

- Urban
- Border Security

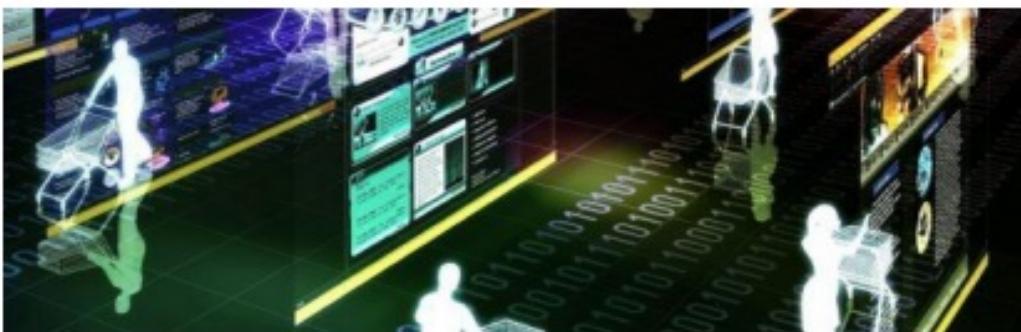
Urban Transportation

The definition of verticals is important for Brazil to carry out actions along with the other actors of the ecosystem for the standardization and implementation of 5G networks.

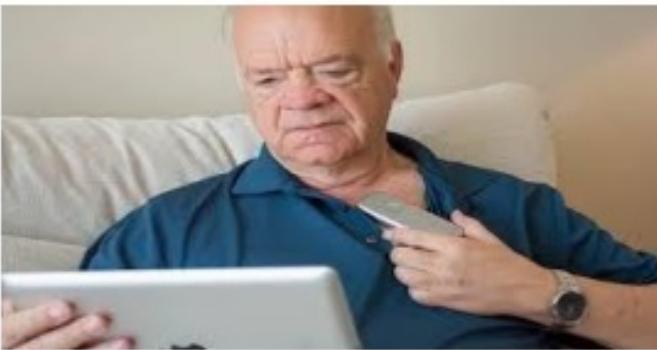
5G Use Case for Brazil – Rural and Agribusiness



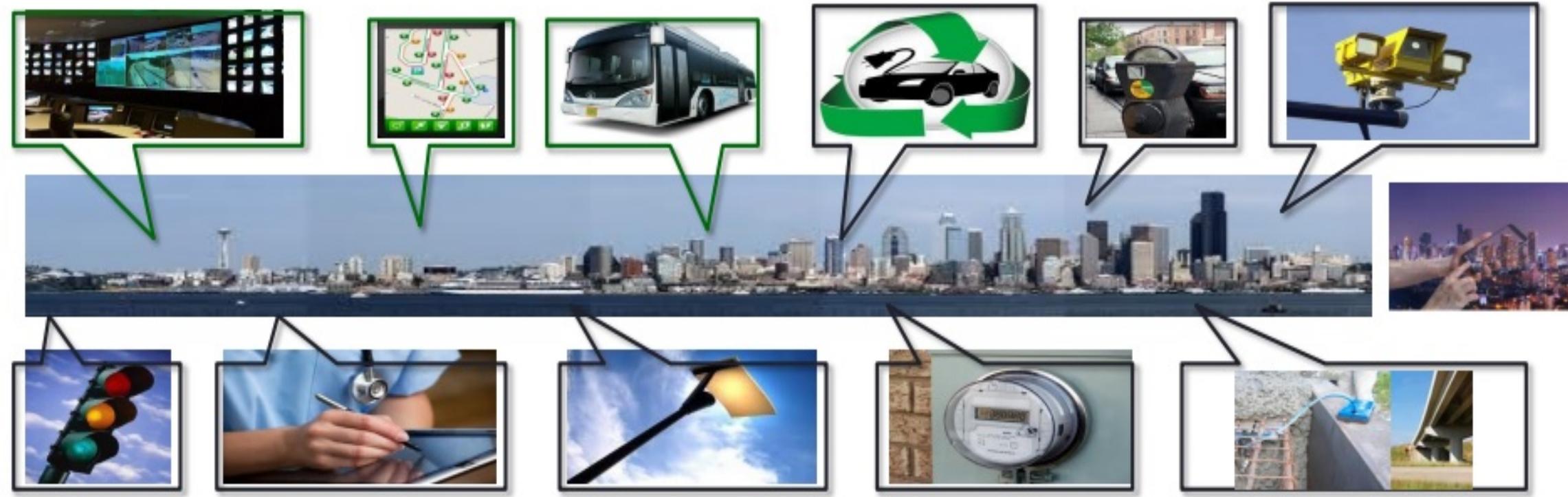
5G Use Case for Brazil – Industry and Logistic



5G Use Case for Brazil – Health



5G Use Case for Brazil – SmartCity, Security and Urban Transportation



Conclusion

- Four prioritized settings in the IoT Brazilian Plan are aligned to the priority verticals defined by 5G Brazil Project.
- Internet of Things may not depend on 5G networks, but this next generation of mobile communication will enable new services, including for the IoT world.
- The vertex of the Massive Machine Type requirement was designed with the focus on IoT market.

