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Smart cities approach for Colombian Context. Learning from ITS experiences and linking with government organization

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BACKGROUND
ITS EXPERIENCES AND SMART CITIES
SMART CITIES AND LINKS WITH COLOMBIAN GOVERNMENT ORGANIZATION
CONCLUSIONS
QUESTIONS

- APPROACHES OF SMART CONCEPTS

BACKGROUND
ITS EXPERIENCE ART C
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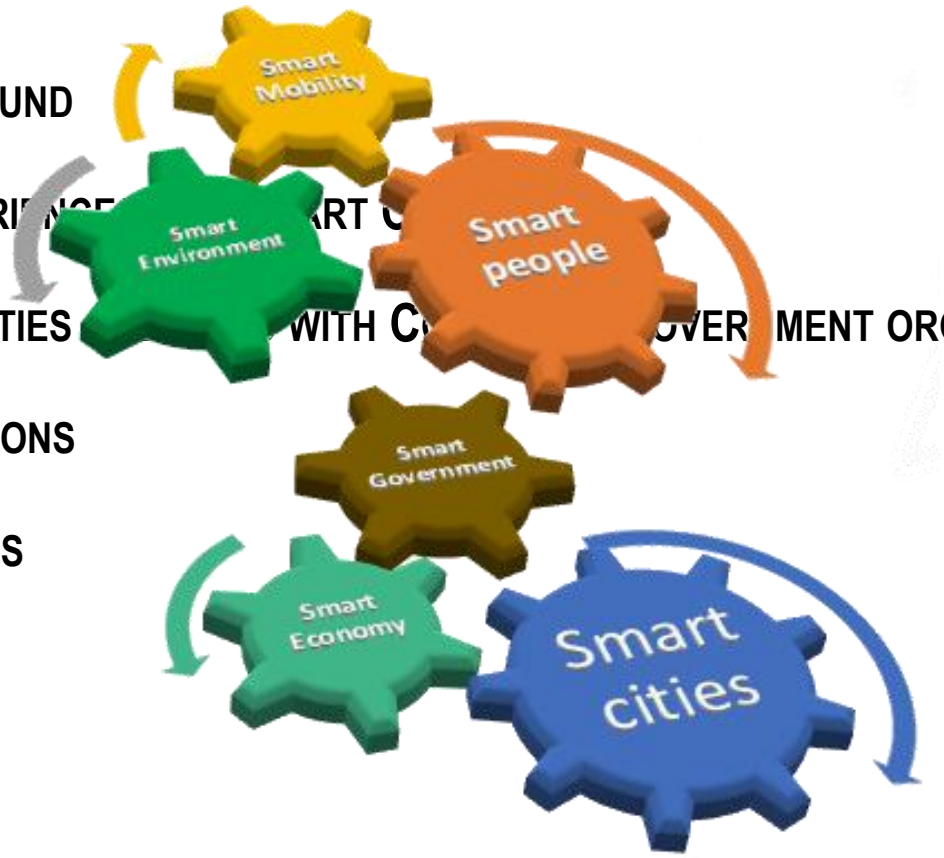
CONCLUSIONS
QUESTIONS



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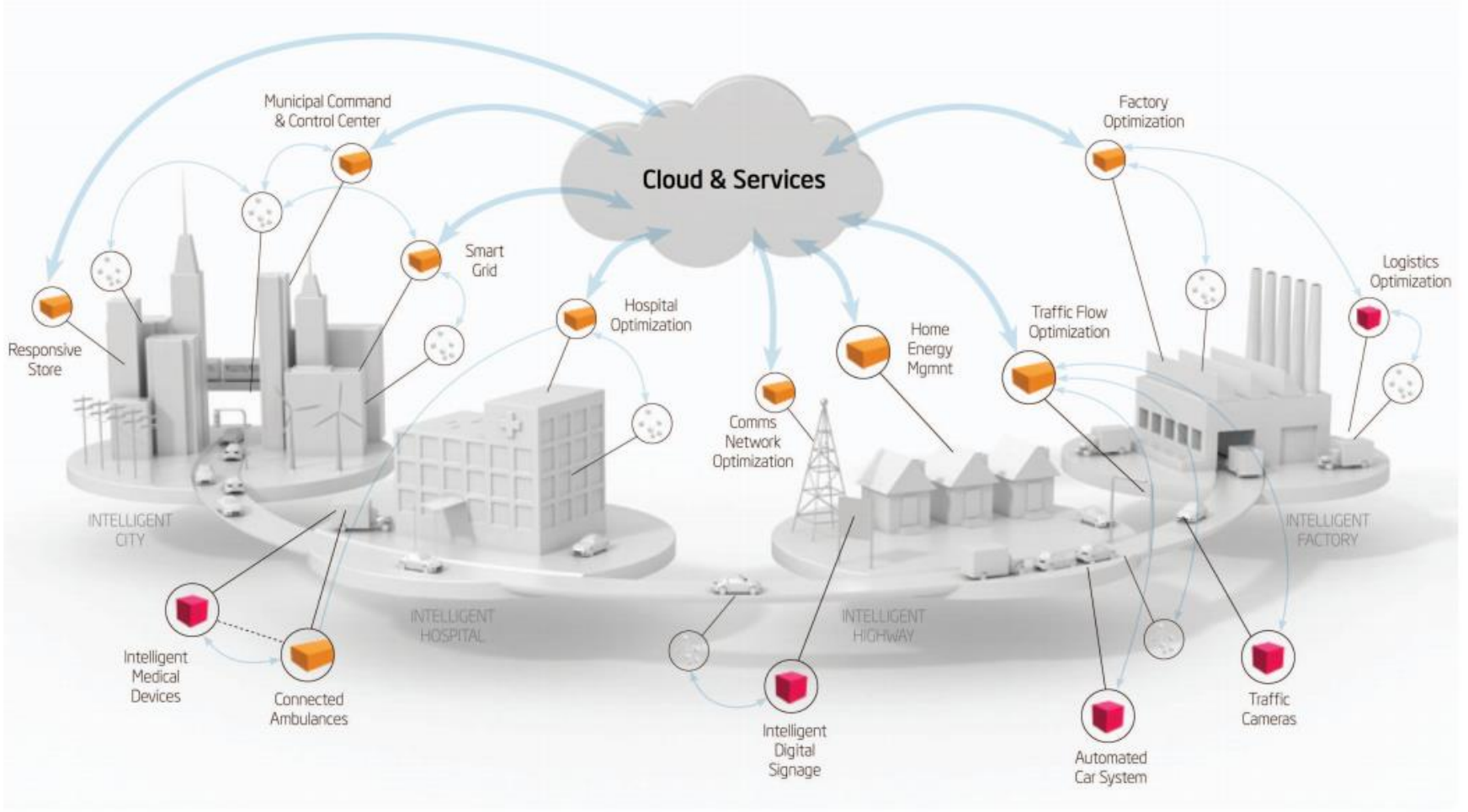
- SMART CITIES CONTEXT → NEW TECHNOLOGY APPROACHES
  - DELIVERY



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- SAMRT CITY RESEARCH TOPICS (MIT, 2015)
  - URBAN ANALYTICS AND MODELING
  - INCENTIVES AND GOVERNANCE
  - MOBILITY NETWORKS PLACES OF LIVING AND WORK
  - ELECTRONIC AND SOCIAL NETWORKS
  - ENERGY NETWORKS
- SEVERAL CONCEPTS IN SMART CITIES
  - BUILT-FROM-SCRATCH IS CALLED A CYBORG
    - SONGDO IN SOUTH KOREA, MASDAR CITY IN THE UNITED ARAB EMIRATES,
  - URBAN OPERATING SYSTEM
    - SINGAPORE, CURITIBA AND CITY OF LUXEMBURG

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- FROM A COLOMBIAN PERSPECTIVE
  - SEVERAL PUBLIC AND PRIVATE ENTITIES HAVE BEGUN TO BROADCAST THE SMART CITY APPROACH.
  - MEDELLIN DIGITAL

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- FROM A COLOMBIAN PERSPECTIVE
  - GOVERNMENT INITIATIVE CALLED "*PLAN VIVE DIGITAL*" - "DIGITAL ECOSYSTEM" THAT COVERS INFRASTRUCTURE, SERVICES, APPLICATIONS AND USERS
  - "*VIVELABS*" FOCUSED ON PROMOTING THE ICT CONTEXT OVER THE POPULATION
    - ICT SKILLS FOR THE PEOPLE THAT HAVE NOT ACCESS TO THE TECHNOLOGY
    - STRENGTHEN SKILLS FOR PEOPLE THAT HAS ICT ADVANCED KNOWLEDGE.
    - ENTREPRENEURSHIP THAT CONTRIBUTES TO DEVELOP THE LOCAL ECONOMIES AND OF COURSE PROMOTE THE SMART CITY CONCEPT.

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- HOWEVER, SMART CITY APPROACH IS HIGHLY CHANGED IN COLOMBIA → DEPENDS ON LARGELY OF GOVERNMENT SITUATIONS.
- DEPARTMENT OF NATIONAL PLANNING (DNP)
  - CREATE A DOCUMENTS CALLED CONPES
    - COUNCIL OF POLICIES FOR ECONOMY AND SOCIAL ASPECTS.
  - CURRENTLY, WE ARE CREATING ITS* CONPES → IT CAN BE HELP TO SMART CITIES CONPES

ITS EXPERIENCES…

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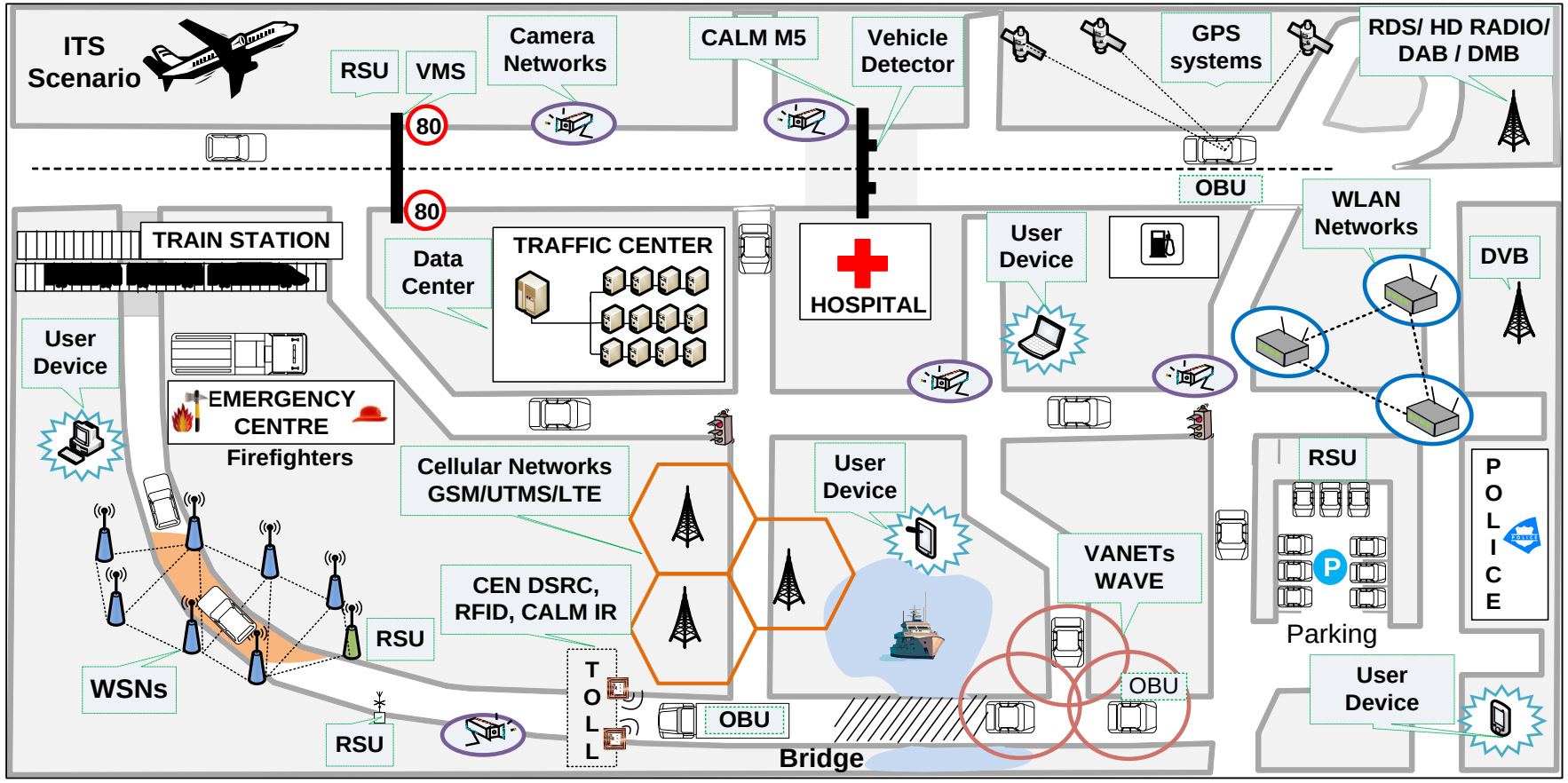

RDS: Radio data system, HD RADIO: Hybrid DIdigital Radio, DAB: Digital Audio Broadcasting, DMB: Digital multimedia Broadcasting, DVB: Digital Video Broadcasting, WLAN: Wireless Local Area Network, GPS: Global Position System, VANET: Vehicular Ad-hoc Network, CALM: Communications, Air-interface, Long and Medium range, WAVE: Wireless Access in Vehicular Environments (CALM M5 - CALM IR), GSM: Global System for Mobile, UMTS: Universal Mobile Telecommnunication System, LTE: Long Term Evolution, RFID: Radio Frequency Identification, DSRC: Dedicated-Shorth Range Communication, RSU: RoadSide Unit, OBU: On-board Unit, WSNs: Wireless Sensor Networks, VMS: Varaible Message Sing

ITS EXPERIENCES…

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- VERY IMPORTANT ISSUE → MOBILITY
  - ITS WAS THINKED TO HELP AND IMPROVE TO THE CITIES IN SEVERAL MOBILITY AND EFFICIENCY ISSUES.
  - HOWEVER THEIR DEPLOYMENTS WERE PLANNING LOCALLY, CURRENTLY, THEY CAN'T INTEGRATE WITH ANOTHER ITS SOLUTIONS.
  - ITS SOLUTIONS WERE NOT INTENDED TO TAKE PART OF A WHOLE SYSTEMS FOR THE CITY OR CITIES OR EVEN FOR THE COUNTRY BUT RATHER→ TO SOLVE A SPECIFIC PROBLEM.
- WE DID NOT APPLY STANDARDS
  - FOR INSTANCE, TRASMILENIO
- CURRENTLY, NATIONAL GOVERNMENT IS DEVELOPING SEVERAL DIFFERENT BIG INFRASTRUCTURE PROJECTS
  - MINISTRY OF TRANSPORTATION ARE TAKING INTO ACCOUNT STANDARDIZATION AS FROM TC 204

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Background

ITS Experiences and Smart Cities

Smart Cities and links with Colombian government organization

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Smart cities and Links with Colombian Government Orga..

- World forecast
- Colombia population for 2050 is estimated to 71 million and currently 76% of population lives in the urban territories
- 32 Departments
- Special Districts
- From Government
  - Sixteen Ministries
  - Municipal Governments

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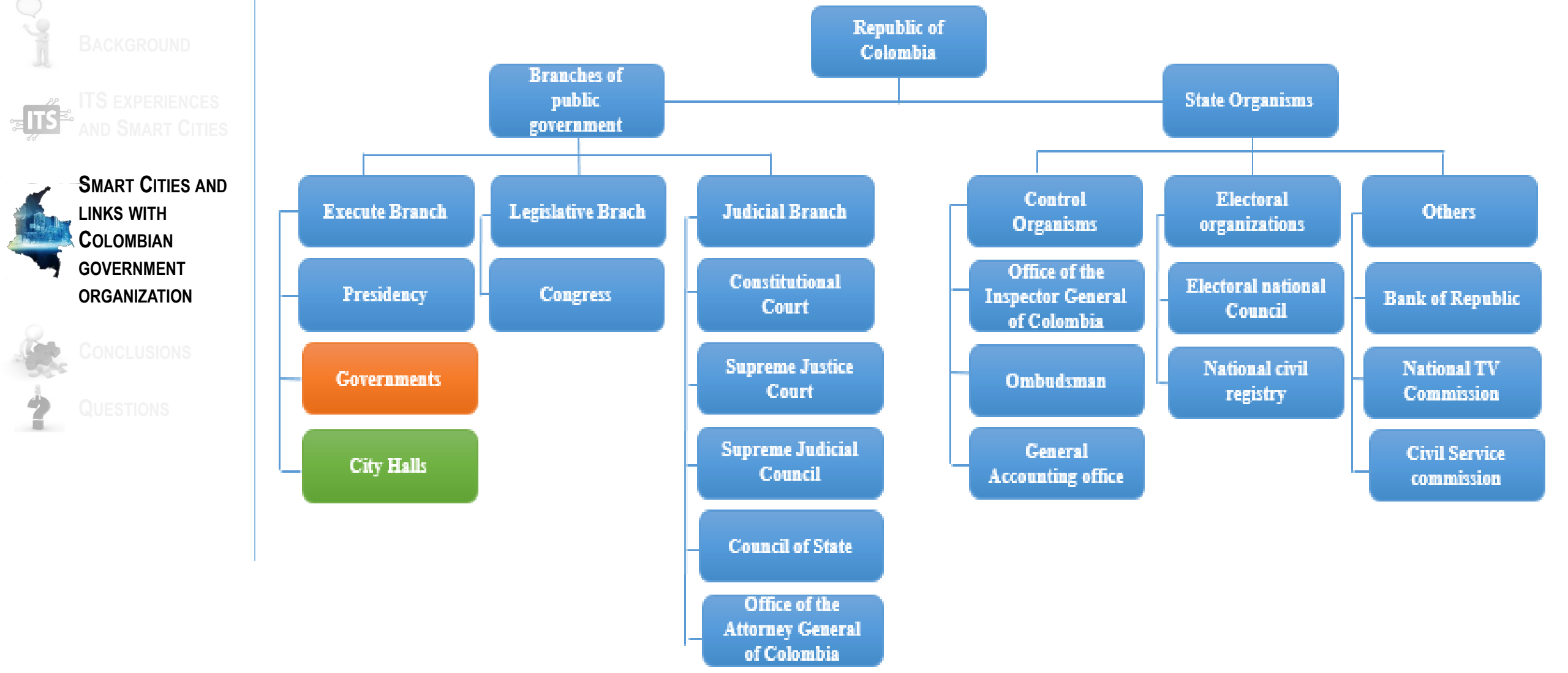

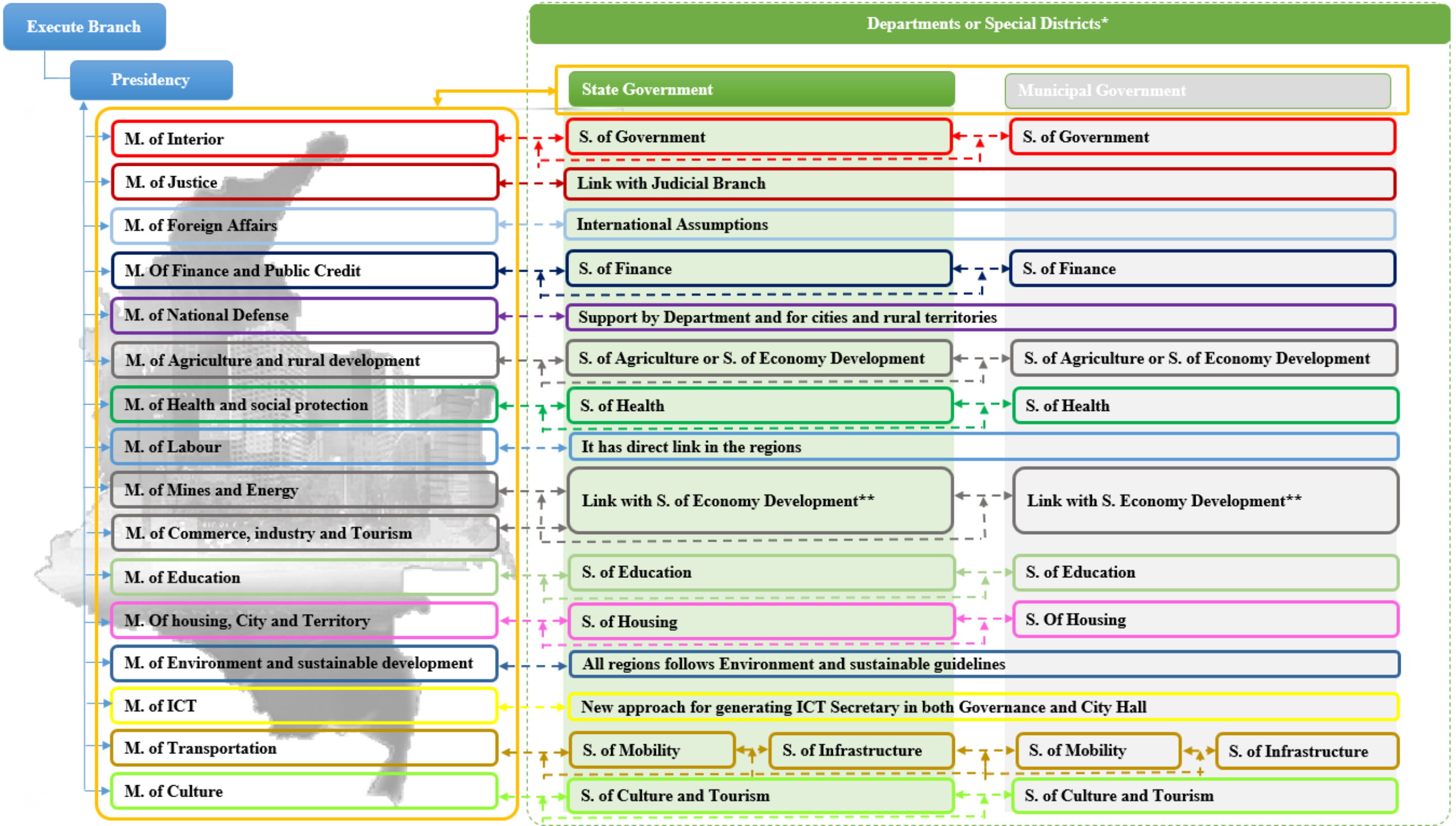
Execute Branch
Presidency
Departments or Special Districts*
State Government
Municipal Government
M. of Interior
S. of Government
S. of Government
M. of Justice
Link with Judicial Branch
M. of Foreign Affairs
International Assumptions
M. Of Finance and Public Credit
S. of Finance
S. of Finance
M. of National Defense
Support by Department and for cities and rural territories
M. of Agriculture and rural development
S. of Agriculture or S. of Economy Development
S. of Agriculture or S. of Economy Development
M. of Health and social protection
S. of Health
S. of Health
M. of Labour
It has direct link in the regions
M. of Mines and Energy
Link with S. of Economy Development**
Link with S. Economy Development**
M. of Commerce, industry and Tourism
M. of Education
S. of Education
S. of Education
M. Of housing, City and Territory
S. of Housing
S. Of Housing
M. of Environment and sustainable development
All regions follows Environment and sustainable guidelines
M. of ICT
New approach for generating ICT Secretary in both Governance and City Hall
M. of Transportation
S. of Mobility
S. of Infrastructure
S. of Mobility
S. of Infrastructure
M. of Culture
S. of Culture and Tourism
S. of Culture and Tourism

CONCLUSIONS

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- IN THIS PAPER WAS PRESENTED THE SMART CITIES APPROACH FOR COLOMBIAN CONTEXT
- IN ADDITION WAS ANALYZED THAT IT IS VERY IMPORTANT TO USE TECHNOLOGY STANDARDS IN ORDER TO GENERATE AND PRODUCE DELIVERY SERVICES IN WHATEVER ECONOMY SECTOR.
- GOVERNMENT ORGANIZATION PLAYS A KEY ROLE IN STRUCTURE OF NEW SMART CITIES APPROACH AND CONCEPTS SPECIALLY AS OF SECRETARIES BELONGING TO MUNICIPAL GOVERNMENTS AND DEPARTMENTS
- FUTURE WORKS, WE CAN SHOW WHAT IT IS THE SPECIFIC ROLES OF LOCAL GOVERNMENTS AND THEIR MAIN LINKING WITH HIS ACTIONS PLANS AND WITH THE PLANNING ELABORATED BY DNP

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Thanks for your kind attention