Saudi Arabia’s digitization is gaining significant momentum driven by the advent of mass broadband access and users’ maturity. Telecom providers would leverage digitization to better monetize its connectivity services while becoming an ecosystem enabler.

In the midst of the global shift to a digital society, global technical companies adopted the “Smart Cities” concept. It is the notion of utilizing the digitization phenomenon and technologies to create a better living experience. It leverages the convergence of the ICT infrastructure components and the cross vertical technology integration, to provide more tailored and intelligent solutions to the home, building, and community.

Due to the importance of telecommunications, and the need to link cities of the vast kingdom regions, It is very important that Saudi Arabia is making great efforts to keep pace with technological developments in the telecommunication sector to take advantage of modern inventions in this field. Telecom is a very challenging industry. Accordingly, Saudi Arabia, as other developed countries, was adapting with telecommunication changes starting from the initial technology for telecommunications to mobile telephone and Broadband Technology.

Broadband enabled a revolution in digitization. Digitization is the key characteristics of 21st century to power & empower socio-economic environment. Digitization lead the world to reach to the ear of “information” and “internet of thing”. Thus emerged the digital culture: digital devices, e-commerce, e-government, E education, E Healthcare, Etc.

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the “Smart Cities” concept. It is the notion of utilizing the digitization phenomenon and technologies to create a better living experience. It leverages the convergence of the ICT infrastructure components and the cross vertical technology integration, to provide more tailored and intelligent solutions to the home, building, and community. There is no specific and certified definition for “Smart Cities” from scientific reference. However, A “Smart City” is a collection of urban components linked by an integrated technological platform that enhances connectivity, efficiency, and sustainability.

For different reasons, Saudi Arabia should accelerate moving its main cities to smart cities:
1. Population density is considered as a major challenge in some cities, such as Makkah, Riyadh and Jeddah. This causes traffic congestion and increases the rate of pollution. Also, this can cause other challenges in education, health, transportations, .....etc

2. The population growth rate of Riyadh city is one of the highest in the world.

3. The presence of the holy cities in Saudi Arabia makes it a popular destination for millions of visitors from all over the world every year. The annual Hajj pilgrimage to Makkah and Madinah make Saudi Arabia among the largest mass gatherings in the world. So, it is important to serve people by providing the best standard of living and ensure a safe and secure community for visitors.

4. Statistics released by the analysis of carbon dioxide emissions by the United Nations Information Center, showed the occupation of Saudi Arabia of the fifteenth rank among the most productive on carbon emissions by (493,726,000) metric tons of carbon dioxide emissions. And ranked first in terms of per capita carbon emissions (18,200 tons of carbon dioxide per year).

5. Water consumption rate in Saudi Arabia is twice the world average. Also, Demand for water is growing at a high percentage rate annually because of the country’s rapid growth . However, Saudi Arabia is a desert country with no permanent rivers or lakes and very little rainfall. So, Saudi Arabia depend on production of desalinated water which consume a high rate energy, and accounts for up to 20 percent of the energy consumption in Saudi Arabia. Water is scarce and extremely valuable and need to be managed in more professional ways.

6. Power consumption per capita in Saudi Arabia are three times world average. However, most of power are coming from nonrenewable sources.

To help alleviate these concerns, Smart Communities offer residents an enhanced quality of life, improved productivity, and a sustainable living environment. Government and private sector efforts should work together to accelerate moving to Sustainable and Smart Cities. This can be done by building a strategic business relationship between government and private sectors. Shifting to smart cities require financial and technical capabilities.

In financial matters, Saudi Arabia has a strong economy and huge substantial financial resources. Saudi Arabia ranks as the largest exporter of petroleum. Moody’s Investors Service has affirmed Saudi Arabia’s Aa3 long-term issuer rating and maintained a stable outlook on the rating. This indicate that the kingdom’s financial strength will remain solid over the coming years.

On the other hand, technically, Saudi Arabia is among the leading countries in the world in terms of communication capabilities. It has large technology companies that have the expertise and wide experience in the field of telecommunications and digital technology, such as Saudi Telecom Company (STC), which is considered the largest telecom operator in the Middle East. Telecom operators can play main role in building smart cities by evolving their value proposition ,from pure connectivity providers to digital and smart city solutions provider. Today, Core Competencies of telecom operators, which can be used across multiple Verticals, are becoming ripe for the adoption of digitization.

Saudi Arabia government and private sector have good achievements towards smart cities demand. Governmental reforms are in place and it is implementing long-term national policies and implementing ICT solutions and e-Programs across ministries/ agencies. It has invested huge amount of money to convert many of its services to citizen and enterprise to smart services. In addition, Saudi Arabia government encourages privat sector to support switching to smart communities. As result, telecom providers developed infrastructure to cope with the smart cities demand. As such, Telkom operators are bundling horizontal solutions in order to serve different industry verticals. Today, Telecom operator has

- Nationwide high-speed fiber and mobile network infrastructure as key elements of smart cities.
- International reach of infrastructure given operators’ presence in multiple countries
- Strategic integration of APIs to enhance customer experience
- Long-standing history of investment in large-scale projects and infrastructure
- Time-honored customer relationship across multiple touch-points including retail stores, websites, etc.
- Access to valuable customer data and analytics such as location, demographics,…
- Trusted brand across segments including a long-standing relationship with governments and enterprises
- Established billing relationship with customers allowing the provision of one bill for all services

Currently, there are some agreements between different government sectors and private sectors to provide Sustainable smart community services. These agreement include the following:
- Education: including Initiative to interconnect all schools and Development of e-learning for universities
- Healthcare: Development of an e-health vision and strategy, placing ICT as an enabler for sector development.
- Transportation: Initial stages of implementing Intelligent Transportation System (ITS) underway. Smart rail allows an optimized management of routes, scheduling, management of people access, smart signage, and mass notification.
- Water Management system: in order to reduce water consumption.
- Energy management: including initiatives to reduce power consumption per capita.
- Traffic and Smart Parking Management: Intelligent traffic and parking system for better management and optimization of car movements within the City.
- Location and Tracking: including smart technologies that allow accurate location and tracking of assets, individuals and vehicles.
- Smart Surveillance: which include Intelligent incident identification and notification using integrated CCTV surveillance system for public spaces

By Appling these initiatives and others, Saudi Arabia can Keep pace with technological progress and will be pioneer in the field of smart communities.