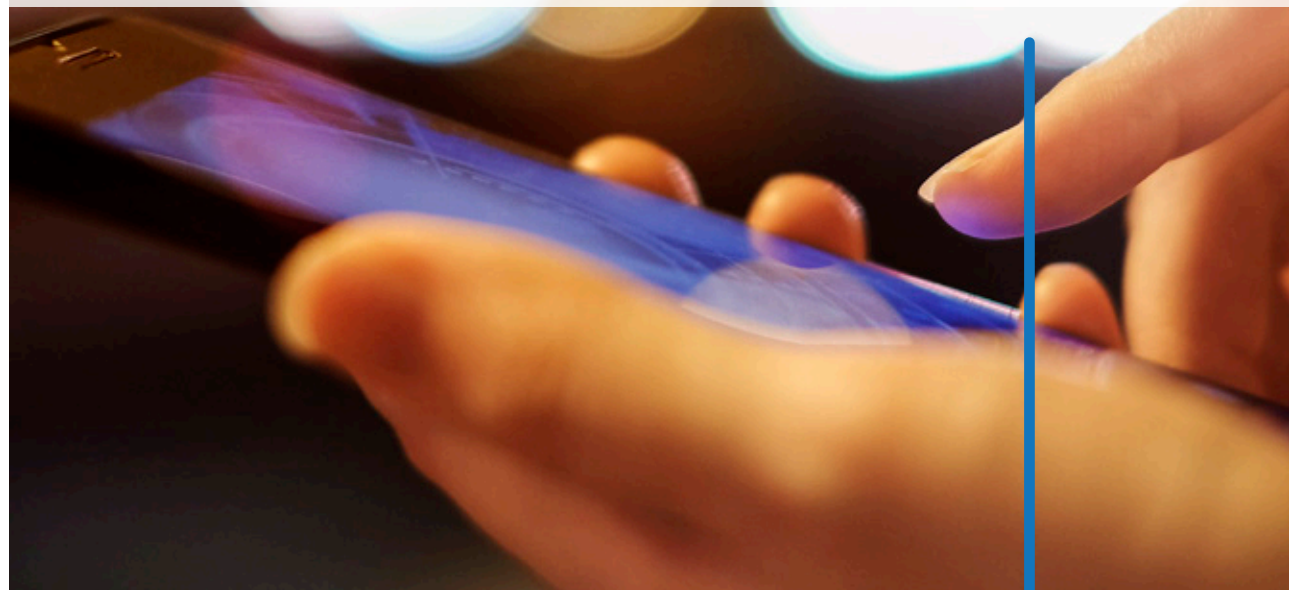


June 2019

5G

Implications for GCC Business



Research Highlights:

5G or fifth generation in mobile networks will provide high speed and reliable wireless and broadband services, low latency communication and make Internet of Things (IoT) a reality. The technology will benefit a wide range of industries including retail, financial services, transportation, healthcare and city development. The report analyses the global ecosystem of 5G, in terms of which companies and countries are leading in 5G readiness, the factors that contribute to deployment of 5G in the GCC region, and the use cases of the technology.



about marmore

Our vision

To be the first choice for obtaining strategic intelligence on the MENA region.

Our mission

Serving businesses and institutions with reliable information and intelligence about MENA, needed to catalyse growth, understand the larger environment and facilitate decision-making.

Our aim

Advocate intellectual research on MENA economics, businesses and financial markets and provide customized, actionable solutions.

Our foundation

- » A subsidiary of Markaz: Investment bank and asset management firm with 40+ years of history
- » Markaz research activities commenced in 2006
- » Marmore established in 2010 to intensify the research activities
- » Publishes research reports and provides consulting services

published research

Industry research

Marmore's industry reports provide information on industry structure, key players, market analysis, demand drivers, competitive analysis and regulatory requirements.

Economic research

These reports are produced as thematic discussions based on current issues in the economy. The reports aid key stakeholders such as investors, businessmen, market participants, and policy makers in understanding the impact of a particular theme on the economy.

Infrastructure research

Infrastructure research highlights bottlenecks in the sector and areas requiring urgent investments. Our infrastructure report analyses the link between economic development and infrastructure and showcases supply & demand challenges in the GCC and investment opportunities.

Capital market research

Capital market reports provide an analysis of stock & bond markets in the MENA region including outlook. These reports are strategic in nature and provides investment perspective to readers.

Policy research

Marmore has partnered with several leading thought leaders and institutions of repute to generate economic policy research studies in key areas like energy, labor, economic structure and public sector.

Periodic research

Our periodic reports capture GCC stock markets' earnings, risk premium studies, and economic development & outlook.

Regulatory research

Our regulatory research series is an effective consolidation, analysis and summary of key business, economic, and market regulations that impact business environment.

consulting services

Marmore provides customized consulting services based on specific requirements of our clients. Marmore's bespoke consulting services marries the challenges of cost, time, scope and data availability to generate actionable outcomes that are specific to our clients' needs.

What type of consulting services we provide?

- » Industry market assessment (market size, competitors, regulations)
- » White label reports (industry reports, company newsletters, periodic research)
- » Databases (competitors' information, target clients insights)
- » Company valuation (buy/sell side advisory)
- » Due diligence / Business evaluation
- » Feasibility studies (market and financial)
- » Business plans
- » C-Suite support to leaders with intellectual, industry related needs

How do we execute consulting engagement?

Our seven step process to execute consulting engagements:

- » Step 1: Requirement and scope analysis
- » Step 2: Proposal submission
- » Step 3: Project initiation
- » Step 4: Fieldwork / research
- » Step 5: Analysis & reporting
- » Step 6: Review & approval
- » Step 7: Report submission / presentation

 /marmoremena

 @marmoremena

 marmore-mena

 marmoreMENA

 www.e-marmore.com

 enquiry@e-marmore.com

**RESEARCH
PROVIDER
OF THE YEAR**



**KNOWLEDGE
PARTNER**

SWFI



Table of Contents

Chapter 1

Executive Summary

Chapter 2

What is 5G?

Chapter 3

5G global ecosystem

Chapter 4

Factors favoring 5G adoption in the GCC

Chapter 5

GCC telecom operators in the 5G space

Chapter 6

5G use cases

Chapter 7

Key recommendations

Chapter 8

Conclusion

List of Tables

Table 4.1 Some GCC operators leading the way

List of Charts

Chart 1.1 Generations of Mobile Technology

Chart 2.1 Shares of Chinese Companies related to 5G have surged in Jan-Feb 2019

Chart 2.2 5G customer adoption across major regions (forecast for 2025)

Chart 2.3 Distribution of Patent Activity by Major Players in 5G

Chart 3.1 Mobile and mobile broadband users-GCC

Chart 3.2 Mobile Technology Growth- GCC (Percentage of connections)

Chart 4.1 Mobile Data traffic per active smartphone in Middle East and Africa region
(GB per month)

Chart 4.2 Regional Mobile data traffic (EB per month)

Chart 5.1 5G use cases that might be considered across GCC

Executive Summary

5G or fifth generation in mobile networks is an evolution in wireless communications guaranteed to provide high speed and reliable wireless and broadband services, low latency communication and make Internet of Things (IoT) a reality. 5G network will facilitate the connection of all the devices around us to a common network and a framework whereby not just people, but all things are interconnected.

The systems that are 5G enabled would ensure that a range of performance improvements are provided including greater capacity, lower latency and better scalability, thus improving the user experience. It will provide seamless connectivity in high mobile environments. 5G technology is designed to have the required flexibility and scalability to deliver wireless connectivity across fixed and mobile devices.

5G networks are estimated to reach 40% of the global population by 2024 with 1.5 billion subscriptions along with handling about 25% of all mobile data traffic. United States, South Korea, Japan and China are the countries that currently lead the 5G race. With a growing smart phone adoption rate and increasing number of mobile broadband users, the GCC region is poised to be one of the early adopters of 5G networks.

The technology will benefit a wide range of industries including retail, financial services, transportation, healthcare and city development with use cases such as autonomous vehicles, AR/VR, automation in oil and gas, smart cities, electronic health records, smart metering for utilities, waste management and entertainment.

5G is fostering a new wave of innovation in the GCC region. It has the potential of supporting the growth of related infrastructure, increasing competitiveness of industries, and enabling other technology trends such as Artificial Intelligence (AI), blockchain etc.

The report analyses the global ecosystem of 5G, in terms of which companies and countries are leading in 5G readiness, the factors that contribute to deployment of 5G in the GCC region, and the varied use cases of the technology.

To buy the full report, please [Click Here](#) 

OR email us at enquiry@e-marmore.com

Would prefer talking to us? Call us at **+965 2224 8280**

Authors

M.R. Raghu CFA, FRM, FCMA

Head of Research

+965 2224 8280

rmandagolathur@markaz.com

Sudhakaran Jampala

Manager- Policy Research

+965 2224 8000 Ext: 4613

SJampala@markaz.com

Anna Elias

Policy Analyst

+965 2224 8000 Ext: 4631

AElias@e-marmore.com

Disclaimer

This report has been prepared and issued by Marmore MENA Intelligence Ltd (Marmore), a fully owned research subsidiary of Kuwait Financial Centre "Markaz" K.P.S.C. Marmore is a private limited company registered with the Registrar of Companies in India.

This Report is owned by Marmore and is privileged and proprietary and is subject to copyrights. Sale of any copies of this Report is strictly prohibited. This Report cannot be quoted without the prior written consent of Marmore. Any user after obtaining Marmore's permission to use this Report must clearly mention the source as "Marmore." The Report is intended to be circulated for general information only and should not to be construed as an offer to buy or sell or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy in any jurisdiction.

The information and statistical data herein have been obtained from sources we believe to be reliable, but no representation or warranty, expressed or implied, is made that such information and data is accurate or complete, and therefore should not be relied upon as such. Opinions, interpretations, estimates, and projections in this report constitute the current judgment of the author as of the date of this Report. They do not necessarily reflect the opinion of Markaz or Marmore or other identified parties and are subject to change without prior notice. Neither Marmore nor Markaz have an obligation to update, modify, or amend this report or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, projection, forecast, or estimate set forth herein, changes or subsequently becomes inaccurate, or if research on the subject company is withdrawn.

This Report may not consider the specific investment objectives, financial situation, and the particular needs of any specific person who may receive this report. Investors are urged to seek financial advice regarding the appropriateness of investing in any security or investment strategy discussed or recommended in this report and to understand that statements regarding future prospects may not be realized. Investors should note that income from such securities, if any, may fluctuate and that each security's price or value may rise or fall. Investors should be able and willing to accept a total or partial loss of their investment. Accordingly, investors may receive back less than originally invested. Past performance is not necessarily indicative of future performance.

Markaz may seek to do business, including investment banking deals, with companies covered in its research reports. Markaz may have interests in the areas covered in this research report. Markaz, Markaz managed entities, its clients, or its employees may have from time to time long or short positions in any security, derivative or other types of assets referred to in this research report. As a result, investors should be aware that Markaz may have a conflict of interest that could affect the objectivity of this report.

This report may provide the addresses of or contain hyperlinks to websites. Except to the extent to which the report refers to website material of Markaz and Marmore, Markaz has not reviewed the linked site and takes no responsibility for the content contained therein. Such address or hyperlink (including addresses or hyperlinks to Markaz's or Marmore's own website material) is provided solely for your convenience and information, and the content of the linked site does not in any way form part of this document. Accessing such website or following such link through this report or Markaz's or Marmore's website shall be at your own risk.

For further information, please contact 'Markaz' at P.O. Box 23444, Safat 13095, Kuwait; **Email: enquiry@e-marmore.com**; Tel: 00965 22248280; Fax: 00965 22495741.