

# The Global IT & Telecommunication Market

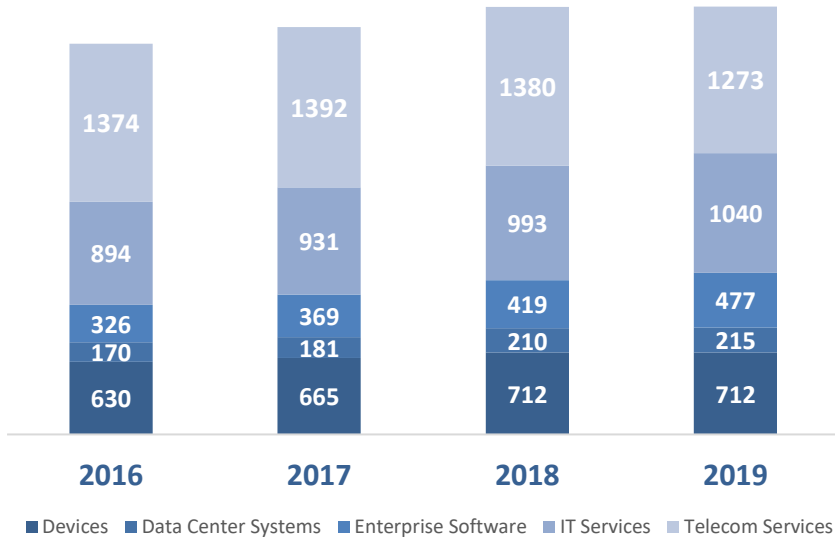
Market Snapshot



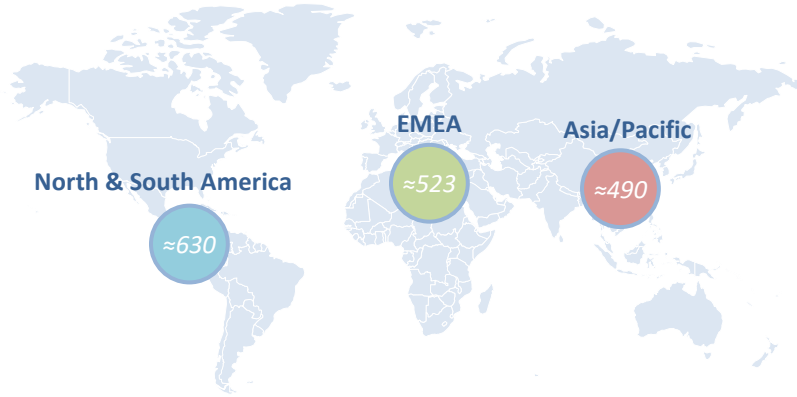
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## Market Snapshot

### Global IT & Telecommunication Spending (Bn. USD)



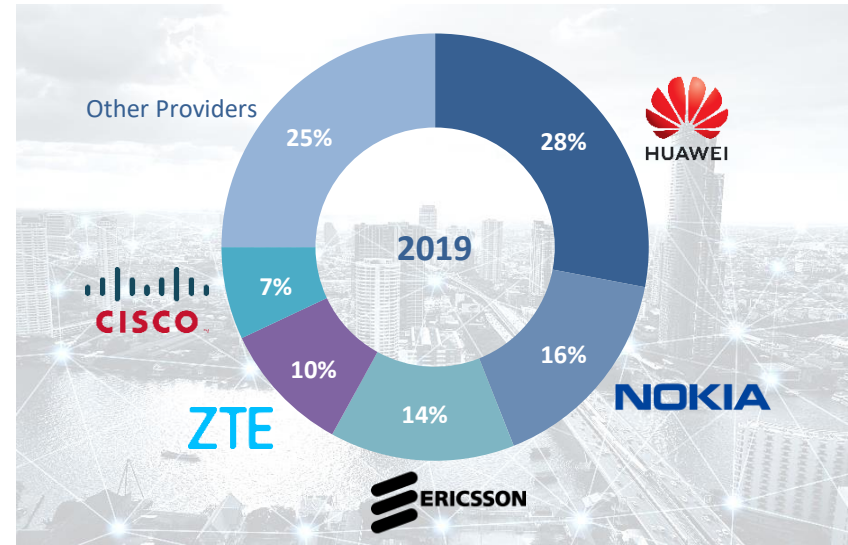
### Telecom Services Revenue 2019 by Region (Bn. USD)



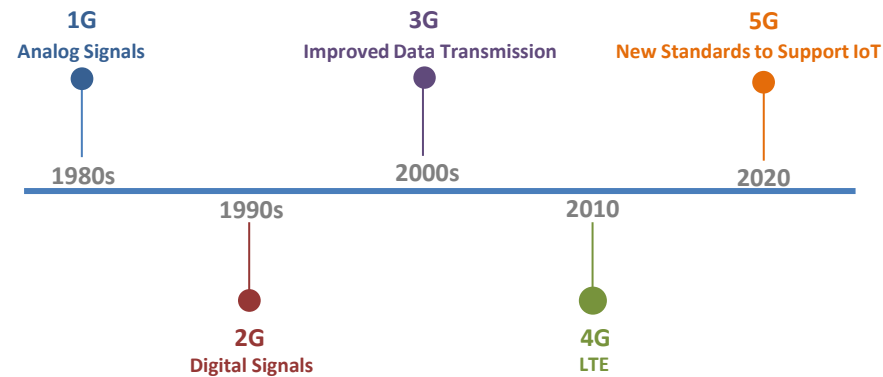
**Worldwide:** ≈1,643 Bn. USD (Telecom & Pay Television Services)

\*Equipment includes Broadband Access, Microwave & Optical Transport, Mobile Core Network, Radio Access Network, SP Router and CE Switch  
Content DTO – B2B Research & Strategies (2020); International Data Corporation IDC (2019); Dell’Oro Group (2019); Ufinet (2020); Gartner (2019)

### Revenue Shares of the Top Telecom Equipment Providers\*



### The Evolution of Wireless Telecommunication



### Important IT-Trends & Developments

#### AI Security



With all the good that artificial intelligence (AI) can provide various business models, it can also create many security vulnerabilities. As a result, the trend to increase the level of AI security is becoming very important.  
*Example: The Use of Machine learning to Detect Security Problems and Automate Security Processes*

#### Autonomous Devices



This trend includes any device that uses AI to carry out semi-autonomous to fully autonomous tasks in areas where the responsibilities are normally carried out by people.  
*Example: Humanoid Robots*

#### Blockchain



Blockchain is already a well-known term. Blockchain technology is designed to continuously expand linked data records via cryptographic processes.  
*Example: Tracing of Food and Drink Products*

#### Edge Computing



The difference between edge and cloud computing lays with the data processing. With decentralized data processing, close to information sources, edge computing allows for shorter system times.  
*Example: Smart Street Lights*

#### Human Enhancement



Human enhancement is all about improving cognitive and physical experiences. Whether it be safety, productivity or any other areas in which sensory and neural functions play an important role.  
*Example: Wearables in the Mining Industry (Occupational Safety)*

#### Hyper Automation



This trend involves the use of AI with machine learning and other technologies to simulate a higher rate of end-to-end process automation.  
*Example: Order Management and Document Processing*

#### Multi-experience



The interaction with a product or service is completely changing with multi-experience being the next level of Omnichannel. This includes the combination of virtual reality and augmented reality.  
*Example: Touchpoint-specific Modalities With Guaranteed Consistent User Experience Across Channels*

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## Market Snapshot

### 5G Application Trends by Industry

#### Automotive



##### Autonomous Driving

5G Readiness (Status 2020)	Prototype
Bandwidth Requirement	100 Mbps – 1 Gbps

##### Tele-operated Driving

5G Readiness (Status 2020)	Early Adopter
Bandwidth Requirement	11 – 99 Mbps

##### Massive Sensor Data

5G Readiness (Status 2020)	Feature Enhanced
Bandwidth Requirement	<10 Mbps

#### Smart Manufacturing



##### Wireless Industry Camera

5G Readiness (Status 2020)	Price Reduction
Bandwidth Requirement	100 Mbps – 1 Gbps

##### Industrial Sensors

5G Readiness (Status 2020)	Price Reduction
Bandwidth Requirement	11 – 99 Mbps

##### Collaborate/Cloud Robot

5G Readiness (Status 2020)	Prototype
Bandwidth Requirement	<10 Mbps

#### eHealth



##### Remote Diagnosis

5G Readiness (Status 2020)	Price Reduction
Bandwidth Requirement	100 Mbps – 1 Gbps

##### Remote Surgery

5G Readiness (Status 2020)	Early Adopter
Bandwidth Requirement	100 Mbps – 1 Gbps

##### Hospital Assistant Robot

5G Readiness (Status 2020)	Early Adopter
Bandwidth Requirement	11 – 99 Mbps

#### Energy



##### Edge Computing Analytics

5G Readiness (Status 2020)	Feature Enhanced
Bandwidth Requirement	11 – 99 Mbps

##### Intelligent Power Distribution

5G Readiness (Status 2020)	Early Adopter
Bandwidth Requirement	<10 Mbps

##### Smart Utility Meters

5G Readiness (Status 2020)	Feature Enhanced
Bandwidth Requirement	<10 Mbps



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