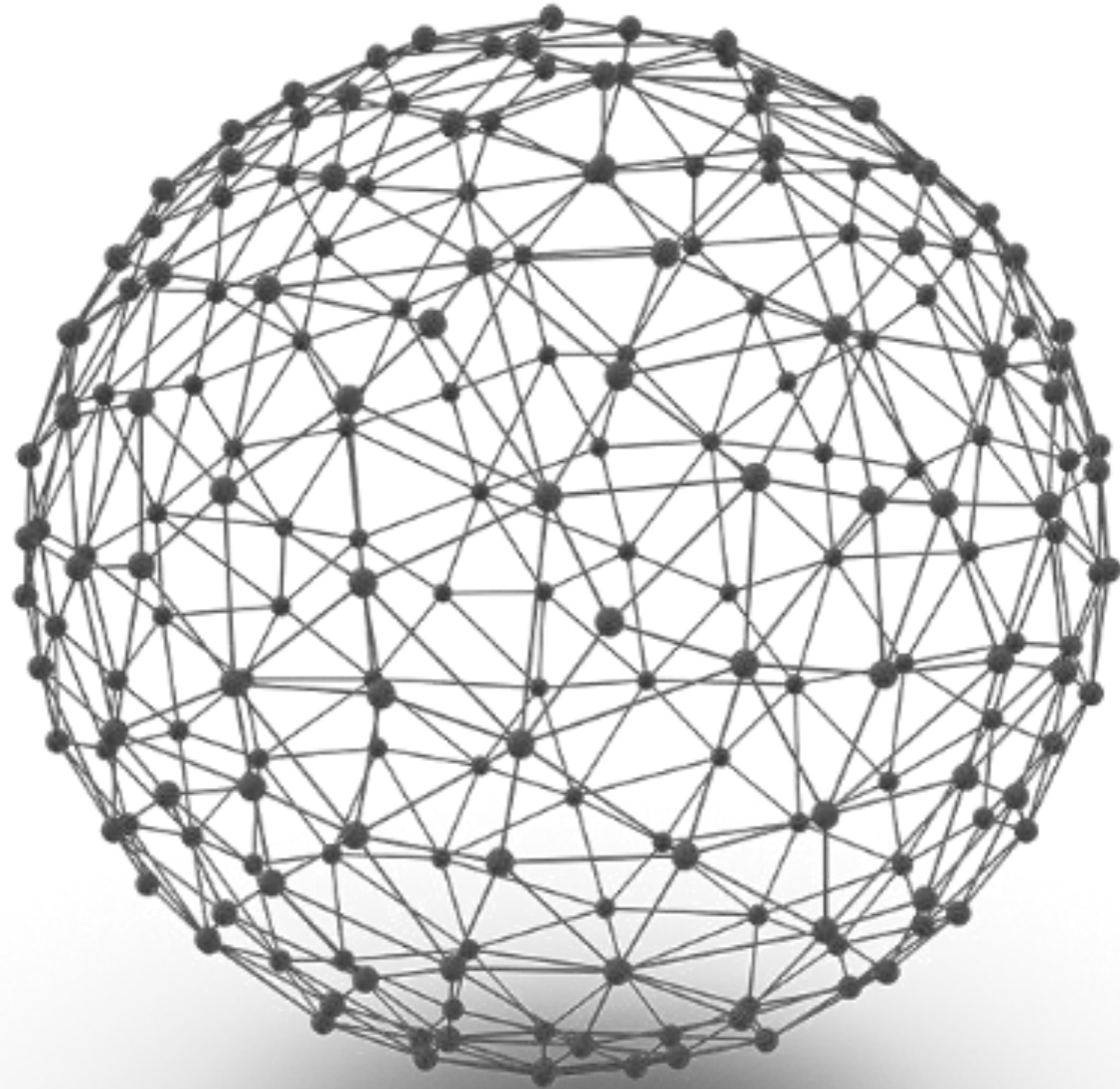




QUANTIFYING RISK, ENABLING OPPORTUNITY

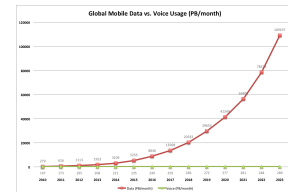
Subject: Convergence within Telecommunications: Challenges and Opportunities

Author: Yusuf Joosub
Organization: SAS
Date: 20 August 2019

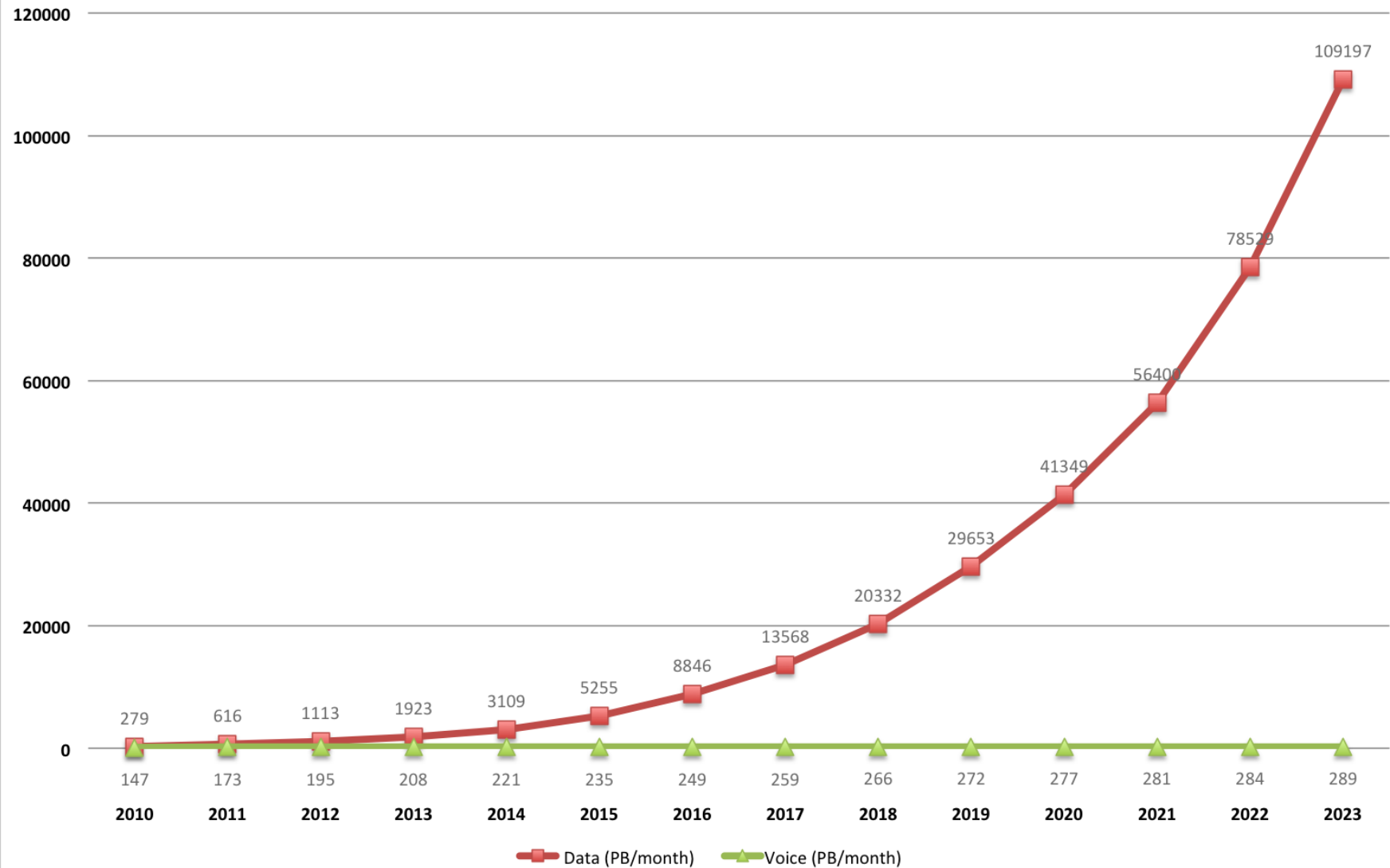


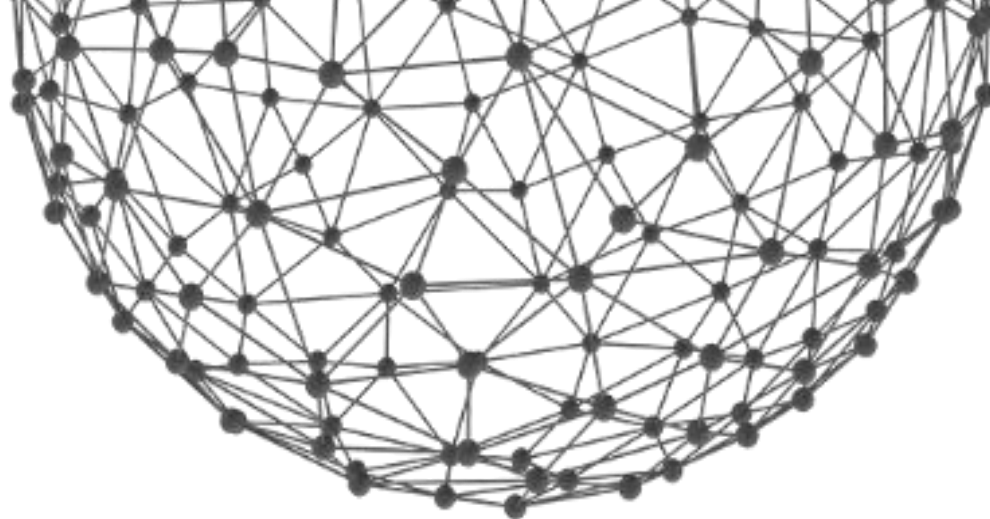
GSM



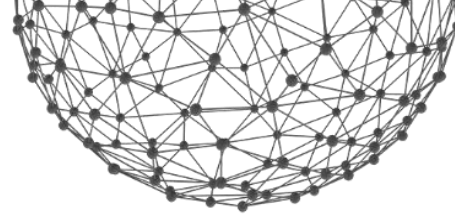


Global Mobile Data vs. Voice Usage (PB/month)

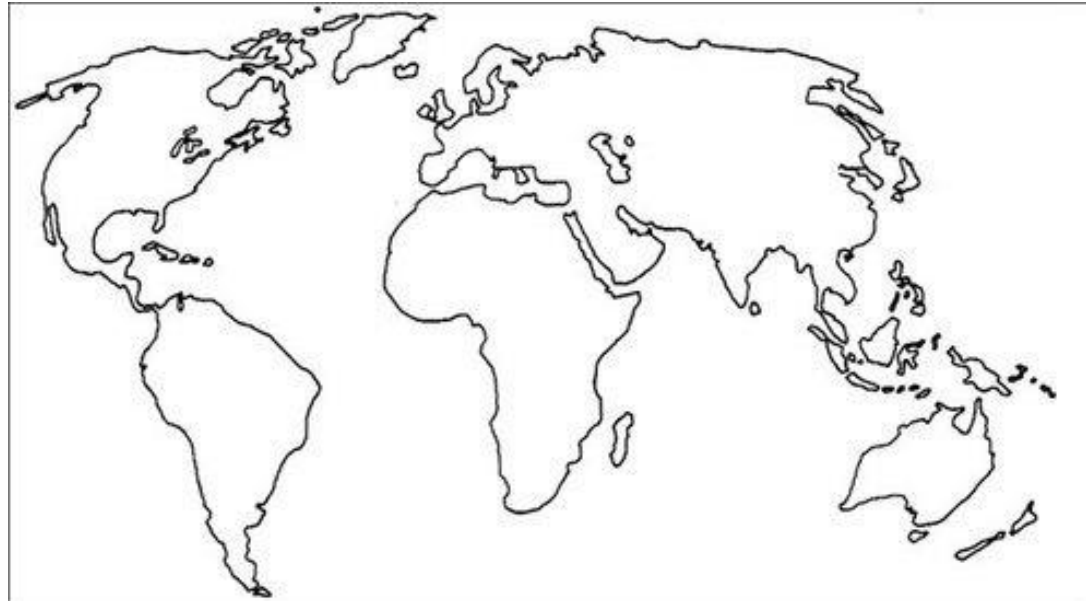


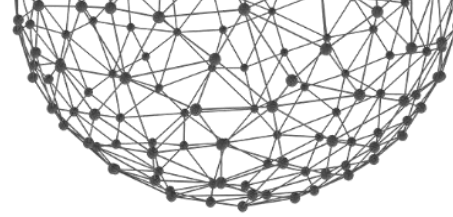


MOBILE WWW

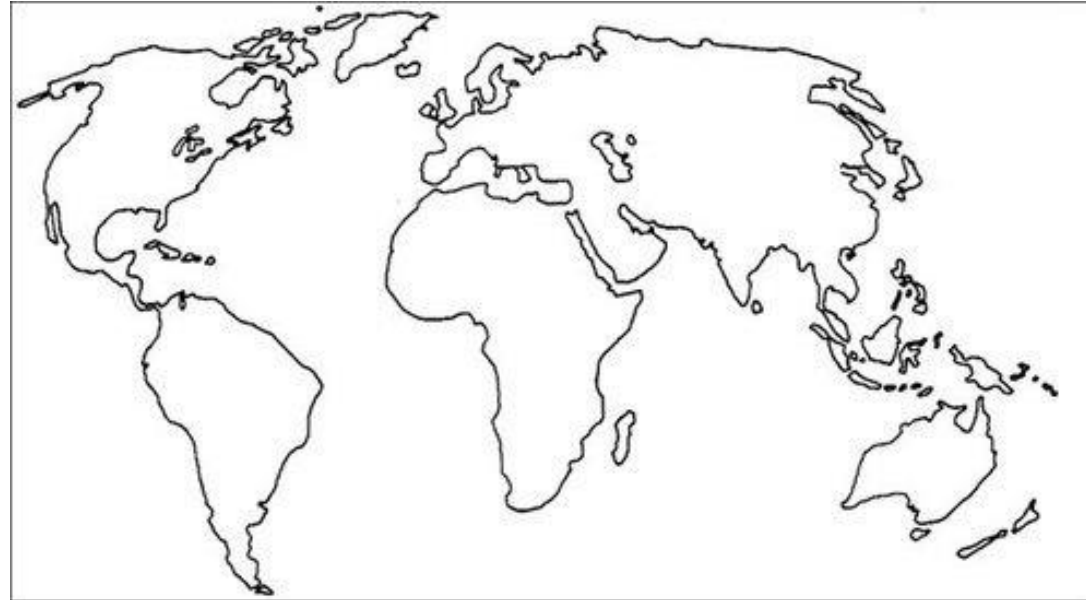


At the end of 2018, more than half the worlds population were using the Internet.

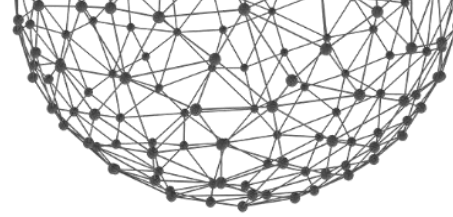


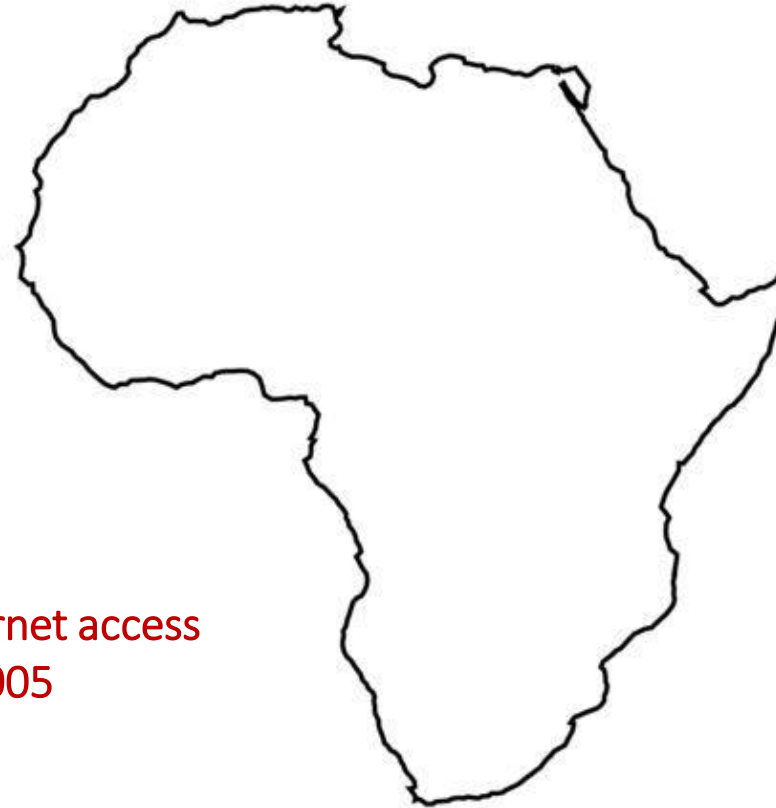
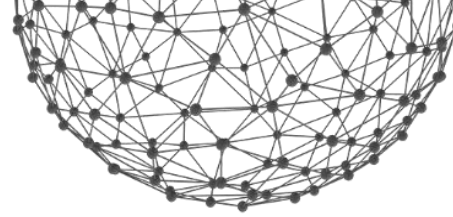


51,2%



3.9 Billion people



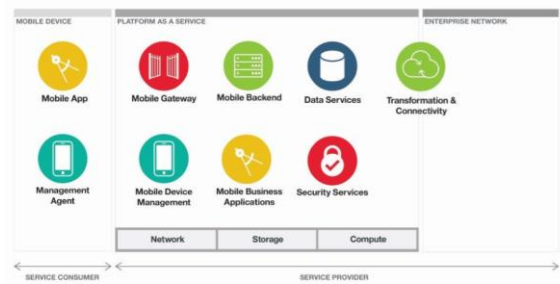


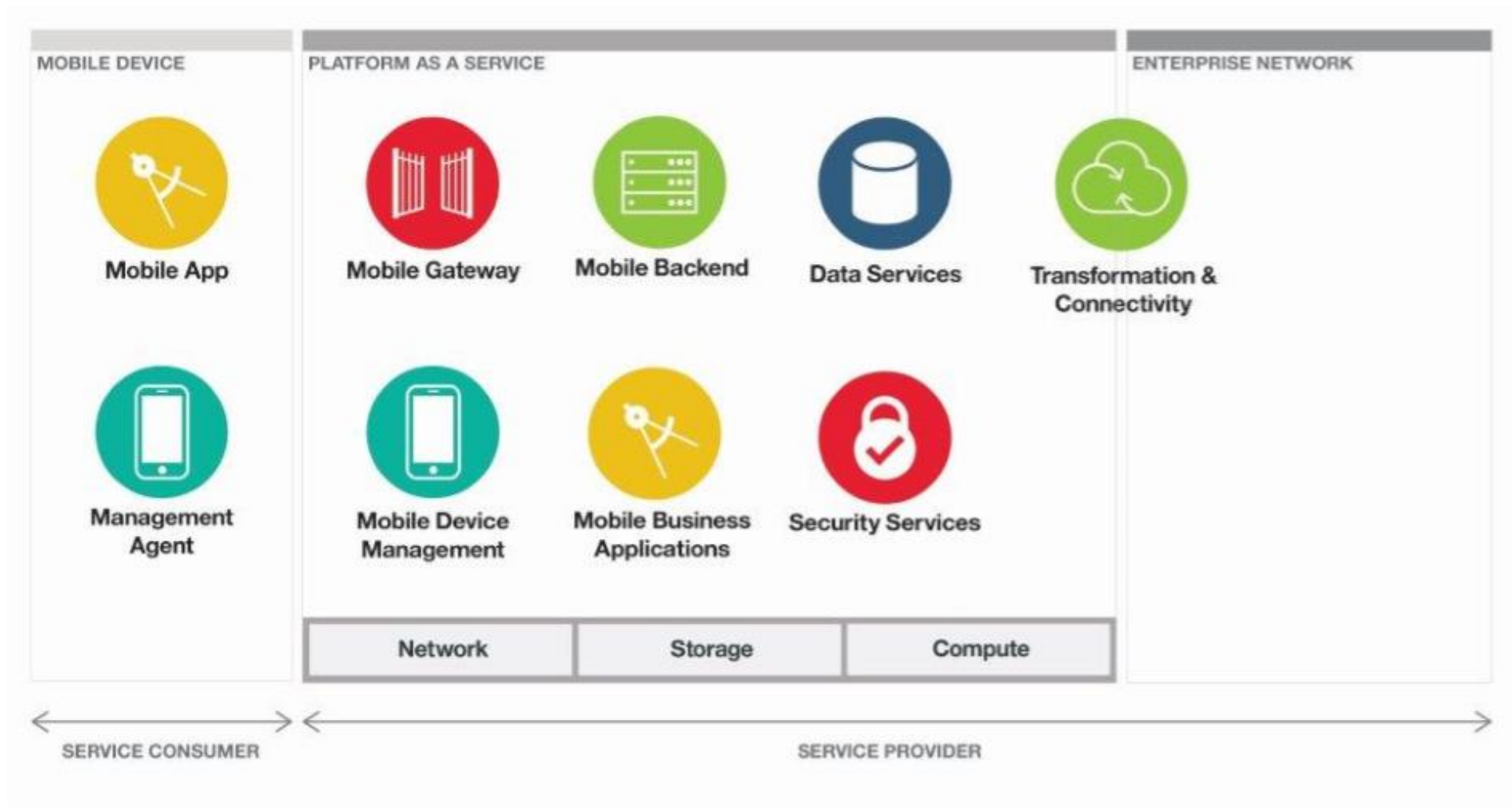
2.1% Internet access
2005

24.4% Internet access
2018



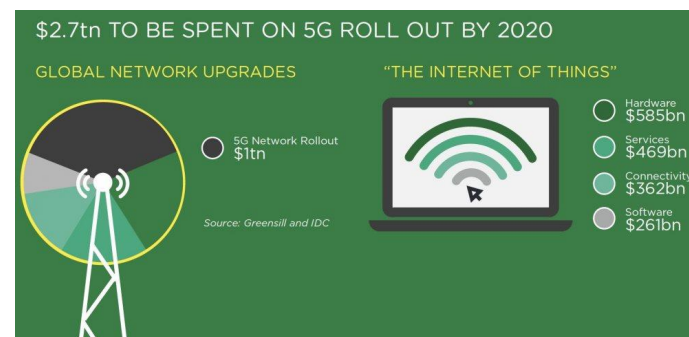
CLOUD





5G





\$2.7tn TO BE SPENT ON 5G ROLL OUT BY 2020

GLOBAL NETWORK UPGRADES



5G Network Rollout
\$1tn

Source: Greensill and IDC

“THE INTERNET OF THINGS”



Hardware
\$585bn

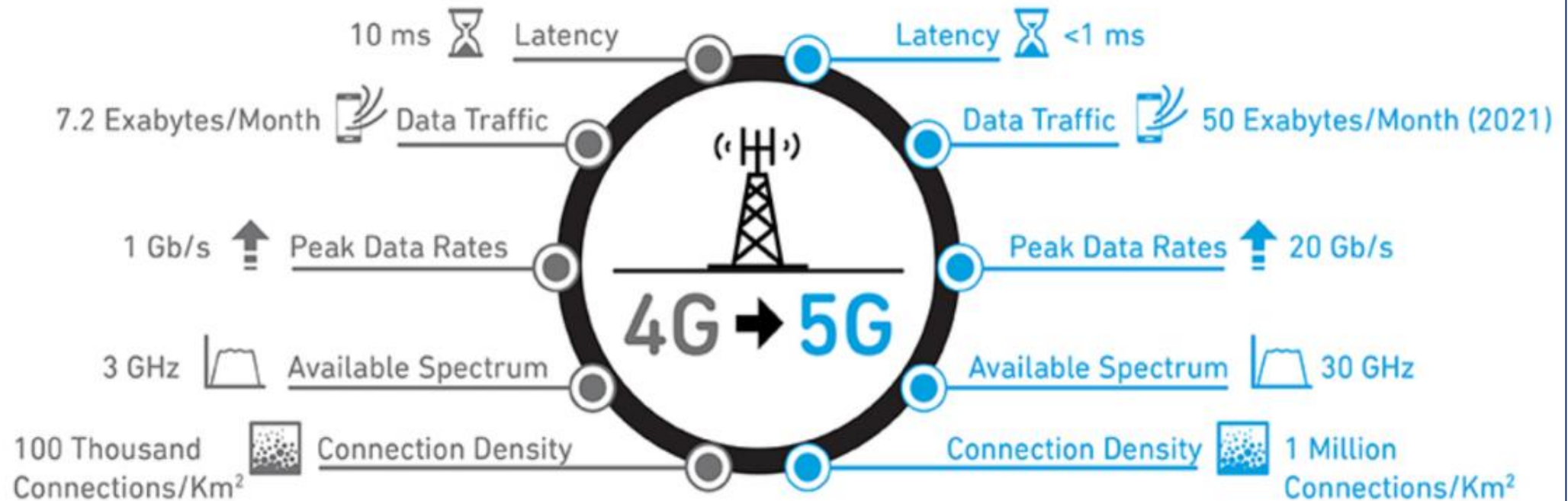
Services
\$469bn

Connectivity
\$362bn

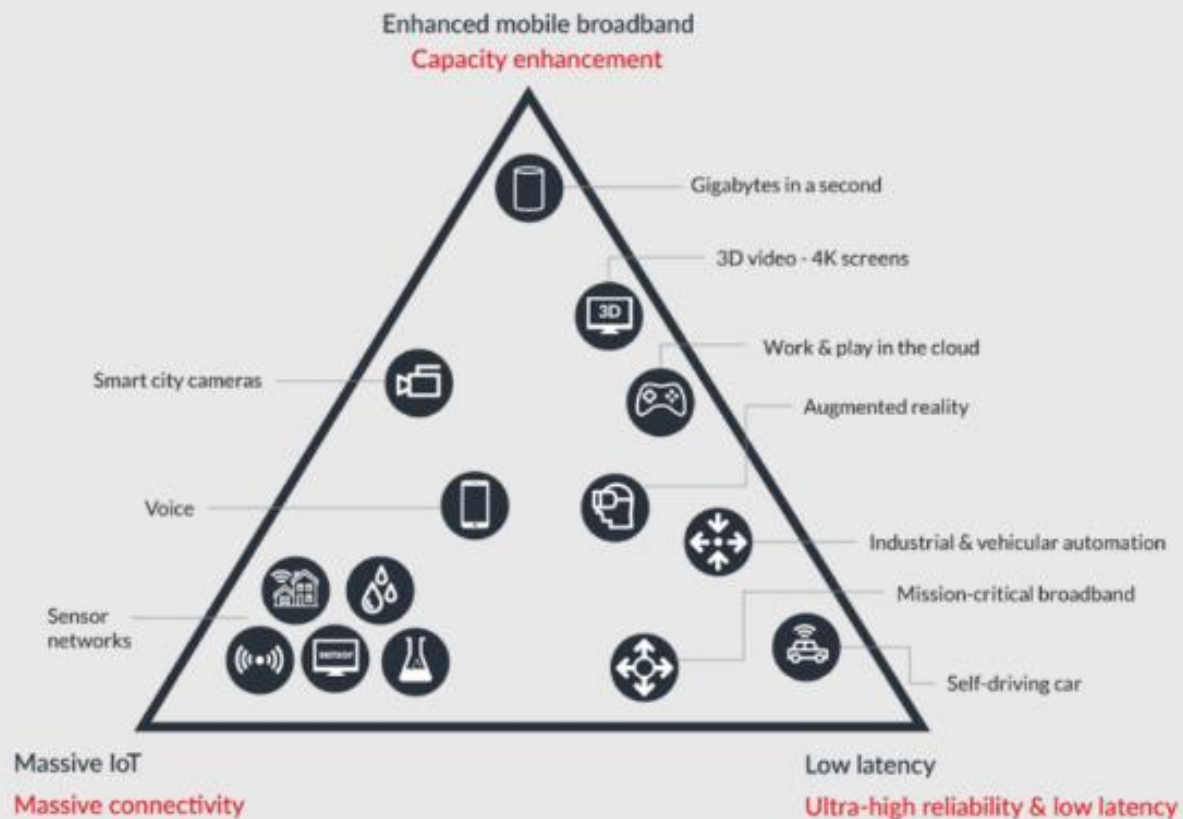
Software
\$261bn



Comparing 4G and 5G



What are the use cases for 5G?



TM Forum, 2018 (source for data: International Telecommunication Union)



FinTech





MOBILE MONEY IN 2018



272

MOBILE MONEY DEPLOYMENTS



ARE LIVE IN

90
COUNTRIES



866m

REGISTERED MOBILE MONEY ACCOUNTS

↑ 20% increase from 2017

62

MOBILE MONEY
DEPLOYMENTS
HAVE MORE THAN

1m

90-DAY
ACTIVE
ACCOUNTS

compared to 54 in 2017 and 13 in 2013

A TYPICAL ACTIVE MOBILE
MONEY CUSTOMER MOVES



\$206
PER MONTH



\$1.3bn

processed daily
by the mobile money industry

54%



OF THE COMBINED
ADULT POPULATION OF

GHANA, CÔTE D'IVOIRE,
BENIN AND SENEGAL

use mobile money on an active basis

DIGITAL TRANSACTION
VALUES



Grew at
more than
TWICE the
rate of
cash-In/
cash-out
values

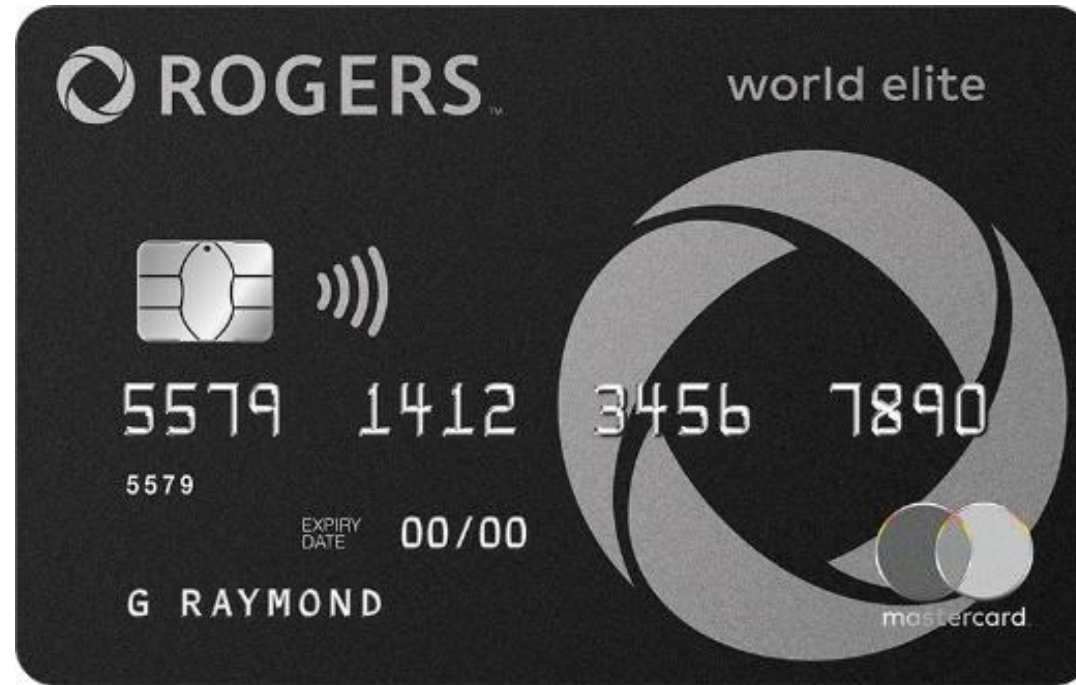
ASIA

90m



NEW REGISTERED ACCOUNTS

↑ 31% increase from 2017



Rogers Communication, largest Canadian Telco, moves into Banking and plans to issue Credit Cards



MTN MoMo

ba big buyer!

Shop online with MoMo... Twa Solva!

You can now pay for **goods** and **services online** via **MTN Mobile Money**. Create a **Visa** virtual card via the **USSD** menu and use it to shop.

Alibaba.com ebay amazon

We're on your side
#MoMoTwaSolva

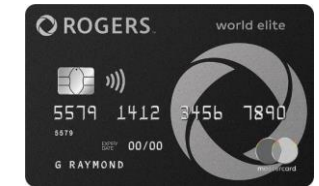
everywhere you go
mtfzambia.com Dial *303

Payment Method

MTN MoMo

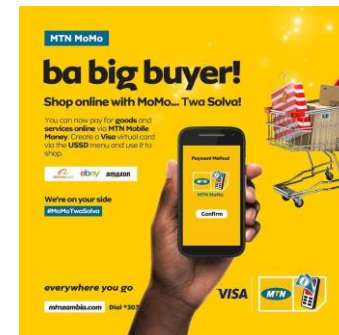
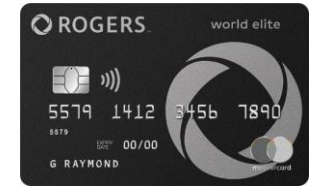
Confirm

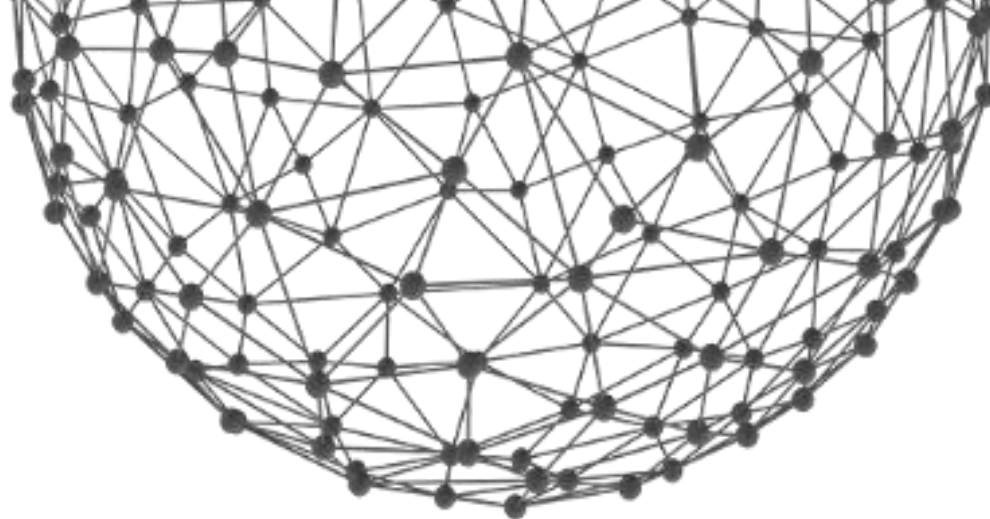
VISA **MTN**



“MTN Group’s head of mobile financial services Serigne Dioum voiced optimism the operator could meet a lofty aim of becoming Africa’s largest financial technology player by 2021.”







MEDIA & OTT

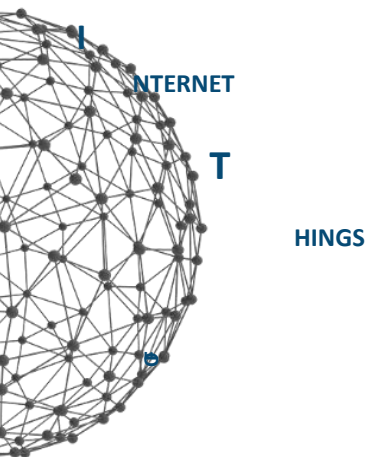








DIGITAL & IOT





INTERNET o THINGS



Communications

INTERNET OF THINGS



Smart Cities and Homes



Communications

INTERNET OF THINGS



Communications



Smart Cities and Homes



Connected Customer

INTERNET OF THINGS



Communications



Smart Cities and Homes



Connected Customer



Surveillance

INTERNET OF THINGS



Communications



Smart Cities and Homes



Connected Customer



Surveillance



Building
Management

INTERNET & THINGS



Communications



Smart Cities and Homes



Connected Customer



Surveillance



Building
Management



Agriculture

INTERNET & THINGS



Communications



Smart Cities and Homes



Connected Customer



Surveillance



Building
Management



Agriculture



Manufacturing

INTERNET & THINGS



INTERNET OF THINGS



INTERNET OF THINGS



Communications



Smart Cities and Homes



Connected Customer



Insurance



Healthcare



Retail



Manufacturing



Surveillance



Building
Management



Agriculture

INTERNET OF THINGS



Communications



Smart Cities and Homes



Connected Customer



Energy



Insurance



Healthcare



Retail



Manufacturing



Surveillance



Building
Management



Agriculture

INTERNET OF THINGS



Connected Car
Transportation



Communications



Smart Cities and Homes



Connected Customer



Energy



Insurance



Healthcare



Retail



Manufacturing



Agriculture

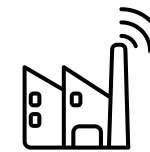


Surveillance

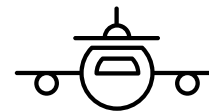


Building
Management

INTERNET OF THINGS



Connected Factory:
1.0PB Data/Day



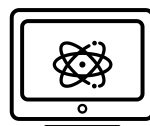
Connected Airplane:
40.0TB Data/Day



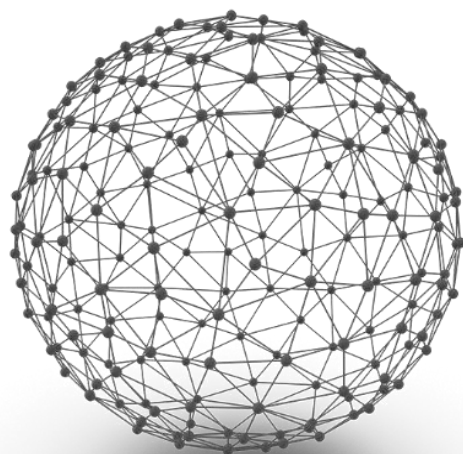
Connected Car:
4.0TB Data/Day

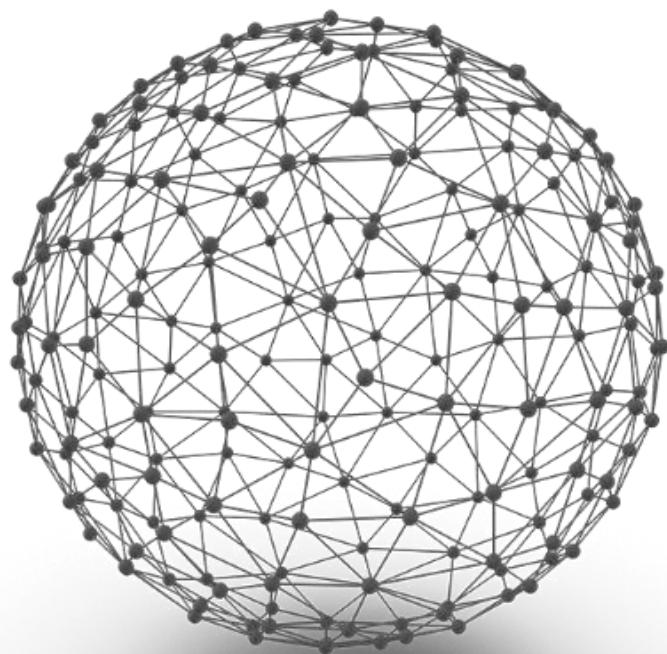


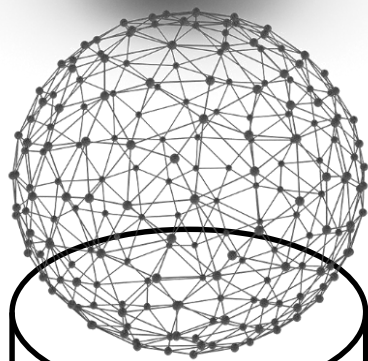
Connected Hospital:
3.0TB Data/Day

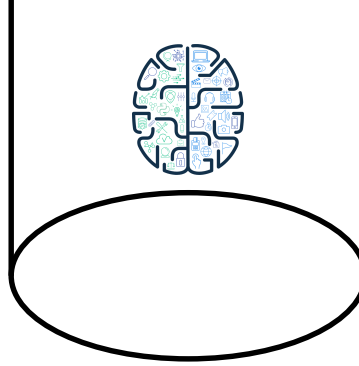


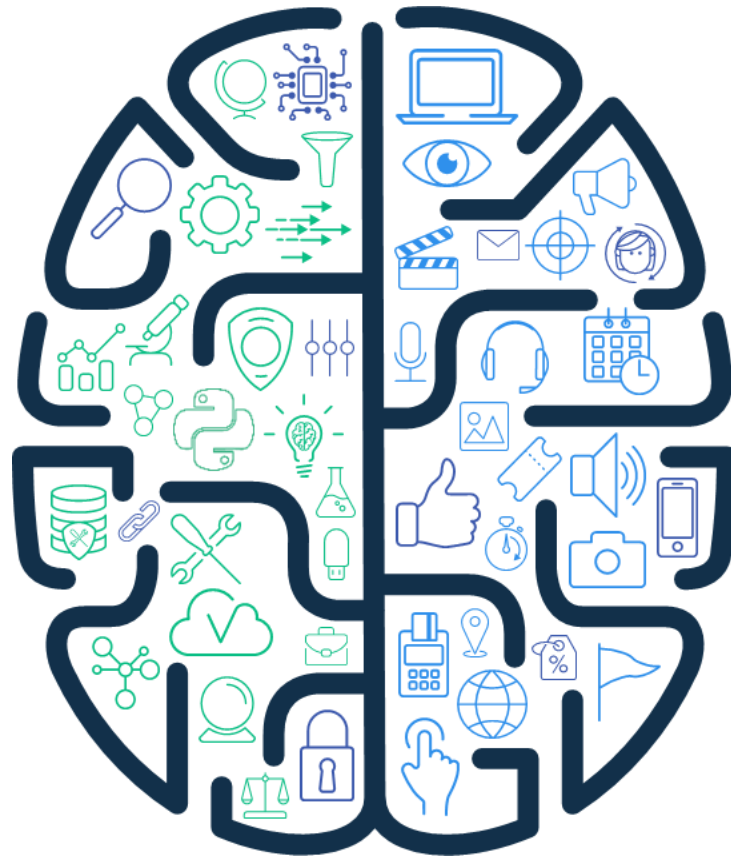
Avg. Internet User:
1.5GB Data/Day

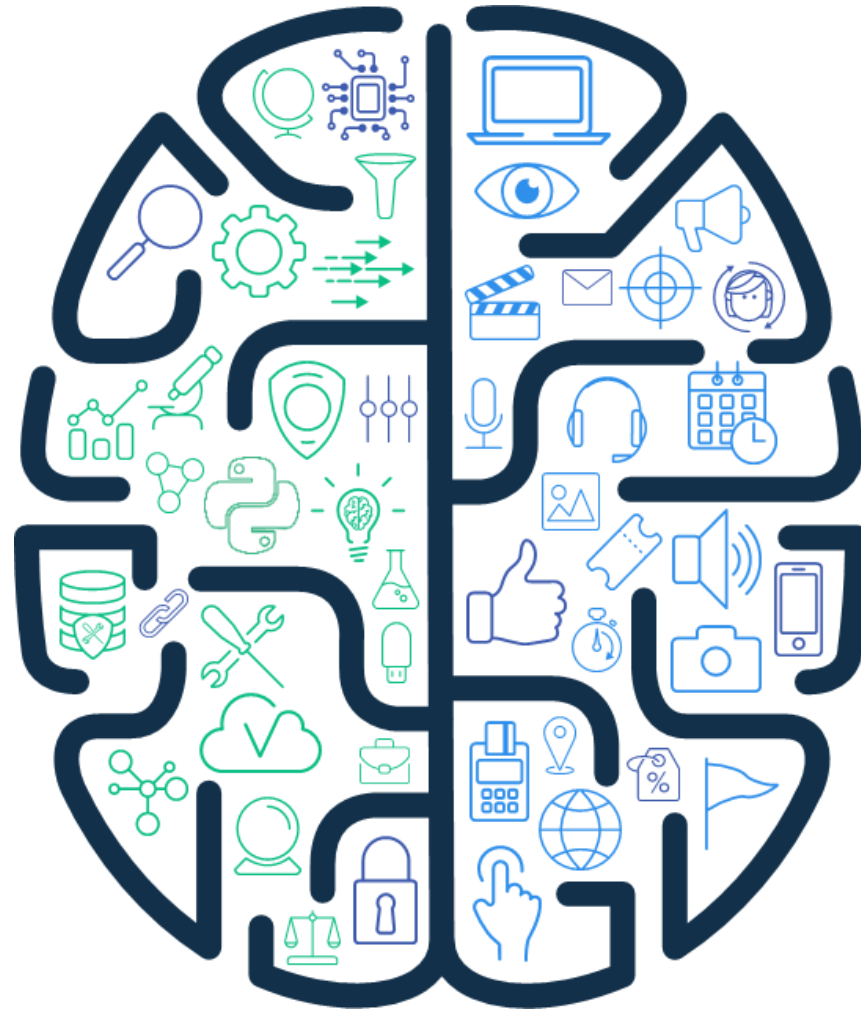












Thank You

Questions??