

5G Security, An Industry Challenge

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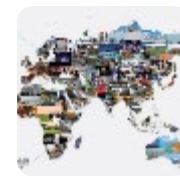
180,000

Employees



80,000

R&D employees



170+

Countries and regions



68 in

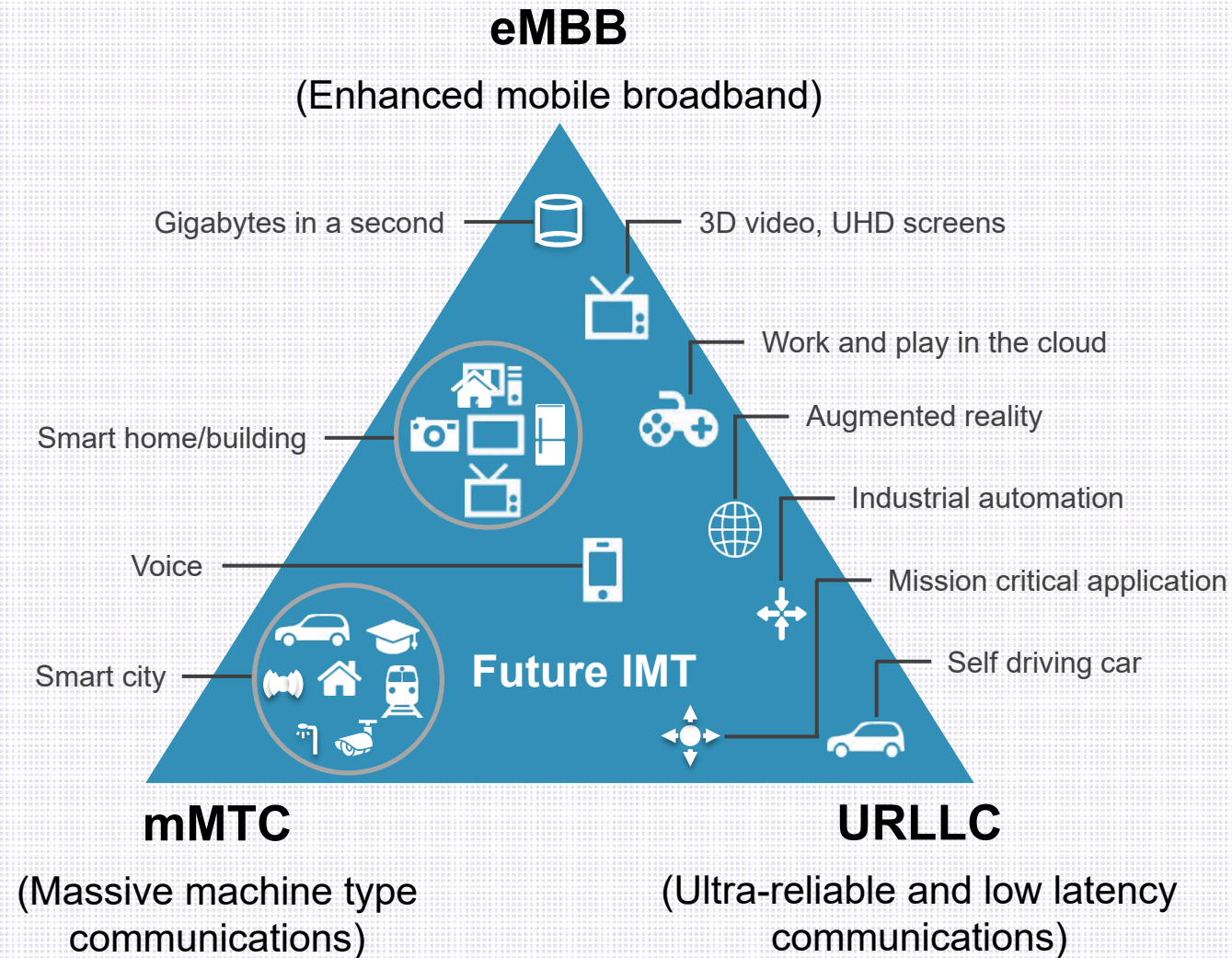
Interbrand's
Top 100
Best Global Brands



72 in

Fortune Global 500

5G will extend MBB experience and promote the arrival of the era of "Internet of Everything"



5G public network focus on large bandwidth, massive connections, and low latency to enable more vertical industries.

In 60 Seconds

2019 *This Is What Happens In An Internet Minute*



Created By:
@LoriLewis
@OfficiallyChadd

Mobile Is More Than Business

Bygda var uten mobildekning – måtte lete etter hus med fasttelefon for å ringe etter legehjelp

– Når minutter teller er det litt drøyt å måtte kjøre bygda rundt for å få ringt etter ambulanse, sier Sigve Larsen fra den lille bygda Vestertana.



Sigve Larsen fra Vestertana i Øst-Finnmark mener det kunne gått riktig ille med hans onkel, som lå hardt skadet i sitt hjem – uten at det var mobildekning for å kunne tilkalle hjelp.

FOTO: SIDSEL VIK / NRK



Sidsel Vik
Journalist



Hanne Bernhardsen Nordvåg
Journalist

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Oppdatert 24. apr. kl. 15:02

Notat om realisering av neste generasjon nødnett

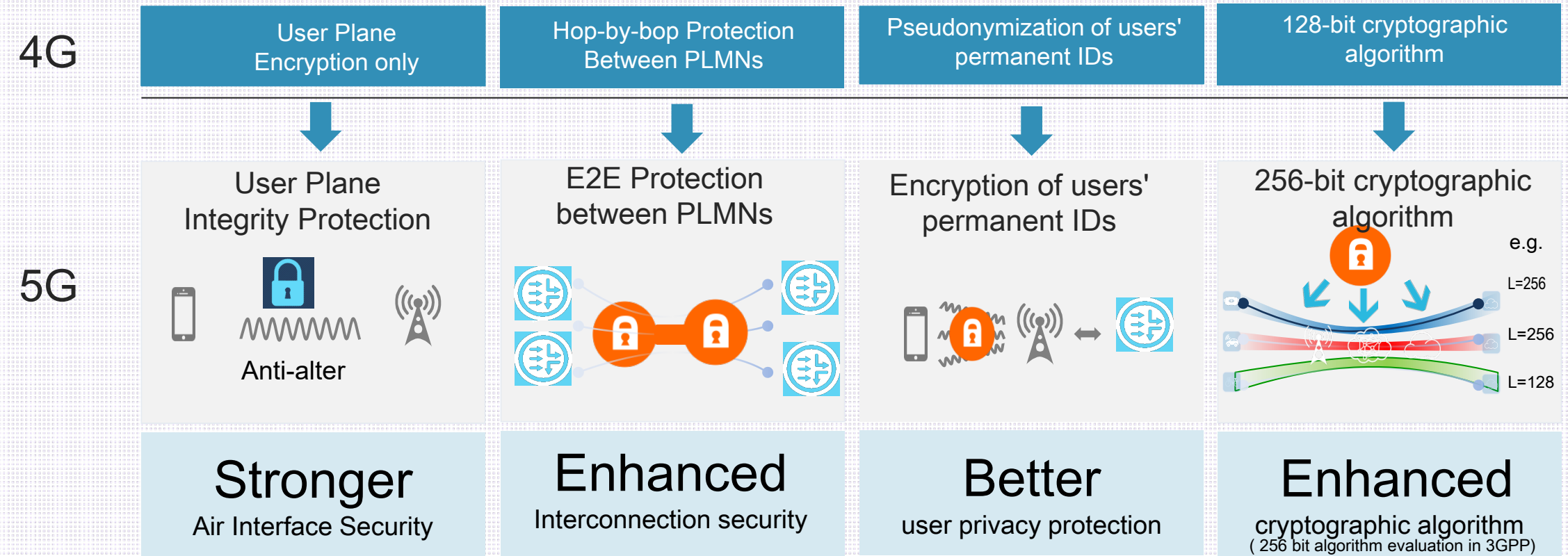
Publisert: 05.05.2018 / Oppdatert: 08.05.2018

DSB har utarbeidet et kort notat med ulike alternativer for implementering av et mulig system for nød- og beredskapskommunikasjon basert på kommersielle mobilnett i Norge.



Notatet er utarbeidet på grunnlag av norske mobiloperatørers svar på en informasjonsforespørsel (RFI) tidlig i 2018.

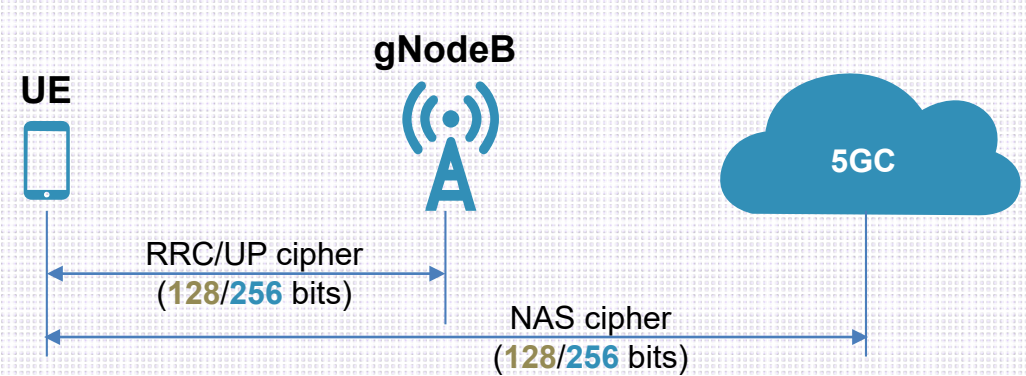
5G Continuously Enhances Security Standard Based on 4G



Huawei and the industry jointly contribute to 5G security standard enhancement

5G Keys Are Enhanced to 256 Bits

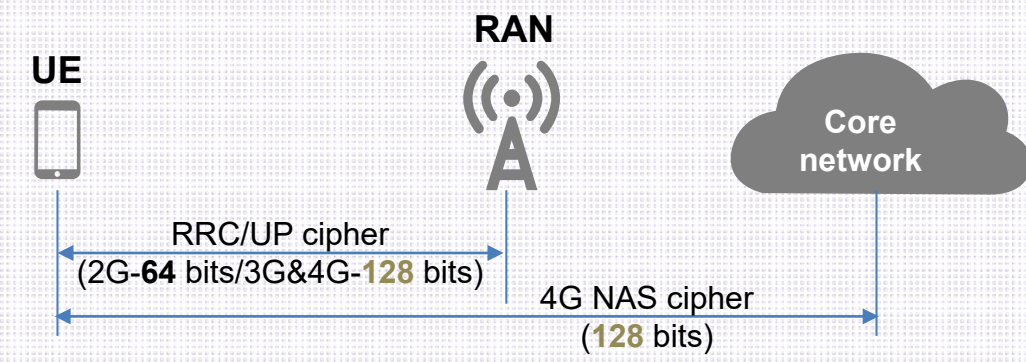
5G keys can be improved to 256 bits to defend against future quantum computing risks.



Future Quantum Computer Decryption

* The concept of quantum computers was first submitted in the 1980s. However, quantum computers have yet to be invented (no real world examples currently available).

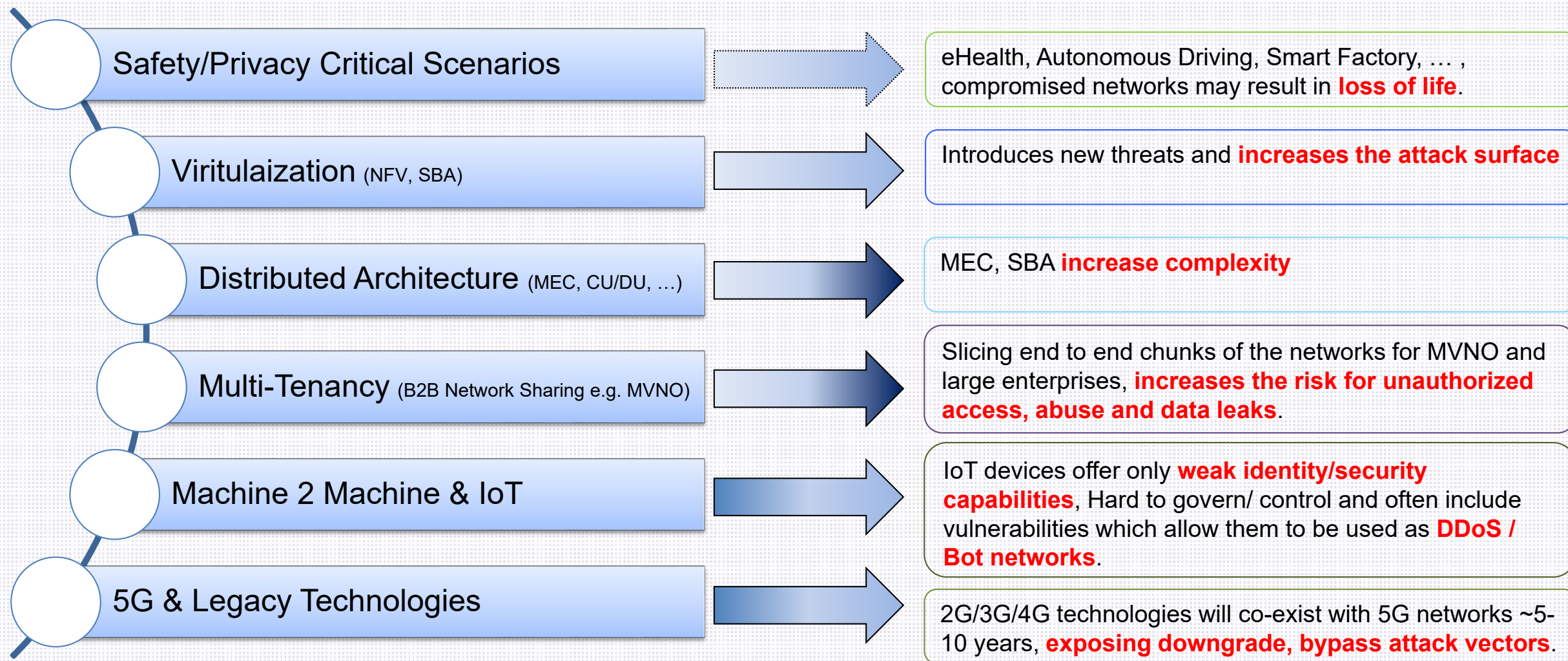
The 2/3/4G keys are 64/128 bits, which are secure enough now.



Summit (peak) super computer decryption

- Summit is the most advanced supercomputer developed by IBM for use at Oak Ridge National Laboratory.
- Only a small number of countries have national laboratories. Even if the 5G network is reduced dimension to 2/3/4G, the network remains secure.

5G Network Evolution Challenges



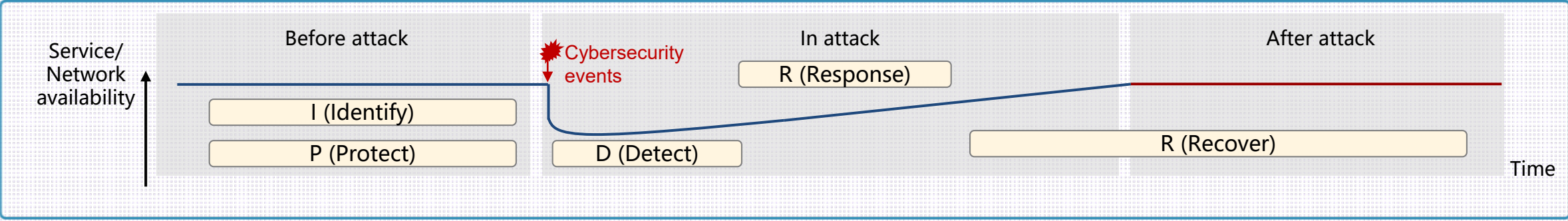
Methodology: Use IPDRR to Ensure Network Resilience



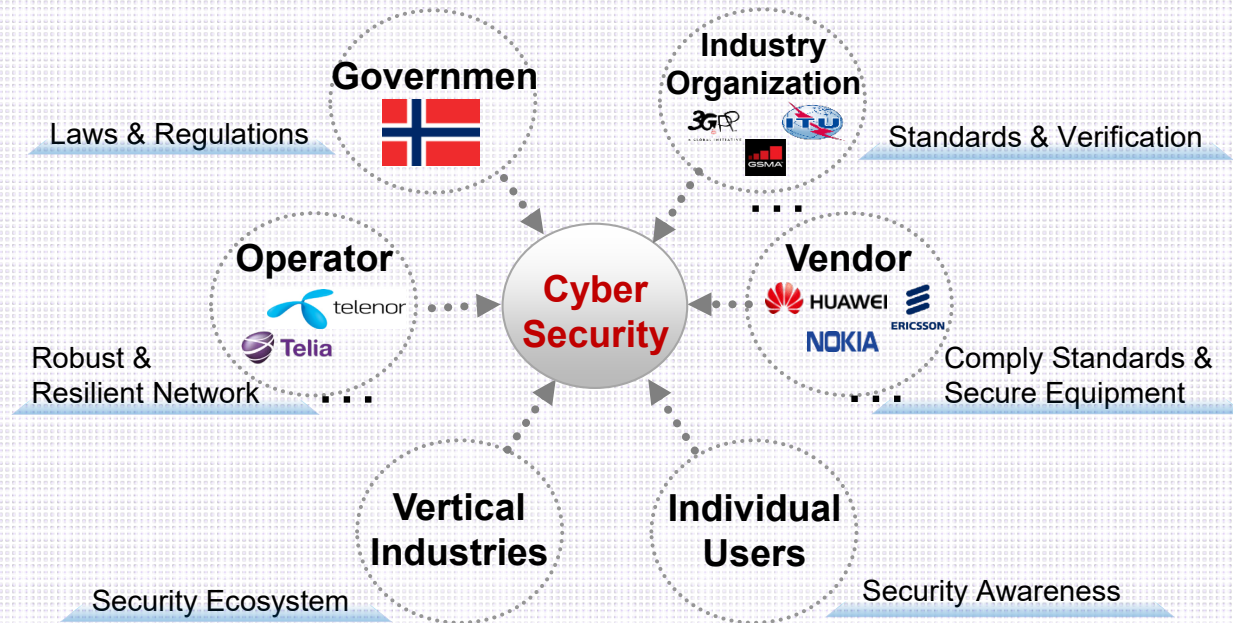
Network resilience refers to the capability of providing and maintaining the acceptable service level when a normal service or network faces various faults and challenges.



To strengthen the resilience of infrastructure, NIST published <Framework for Improving Critical Infrastructure Cybersecurity> on April 16,2018.



Huawei Approach Towards This Industry Challenge



- Government and mobile operators both have a role to play in safeguarding the integrity of telecommunication infrastructure

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Virtualisation ISG (NFV)
ETSI
World Class Standards



Major contributor to SA3, driving 5G security standardization

Top Contributor to NFV Security Group

Board member



Thank You.

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