

Discussions on Over-The-Top (OTT) in ITU-T SG3

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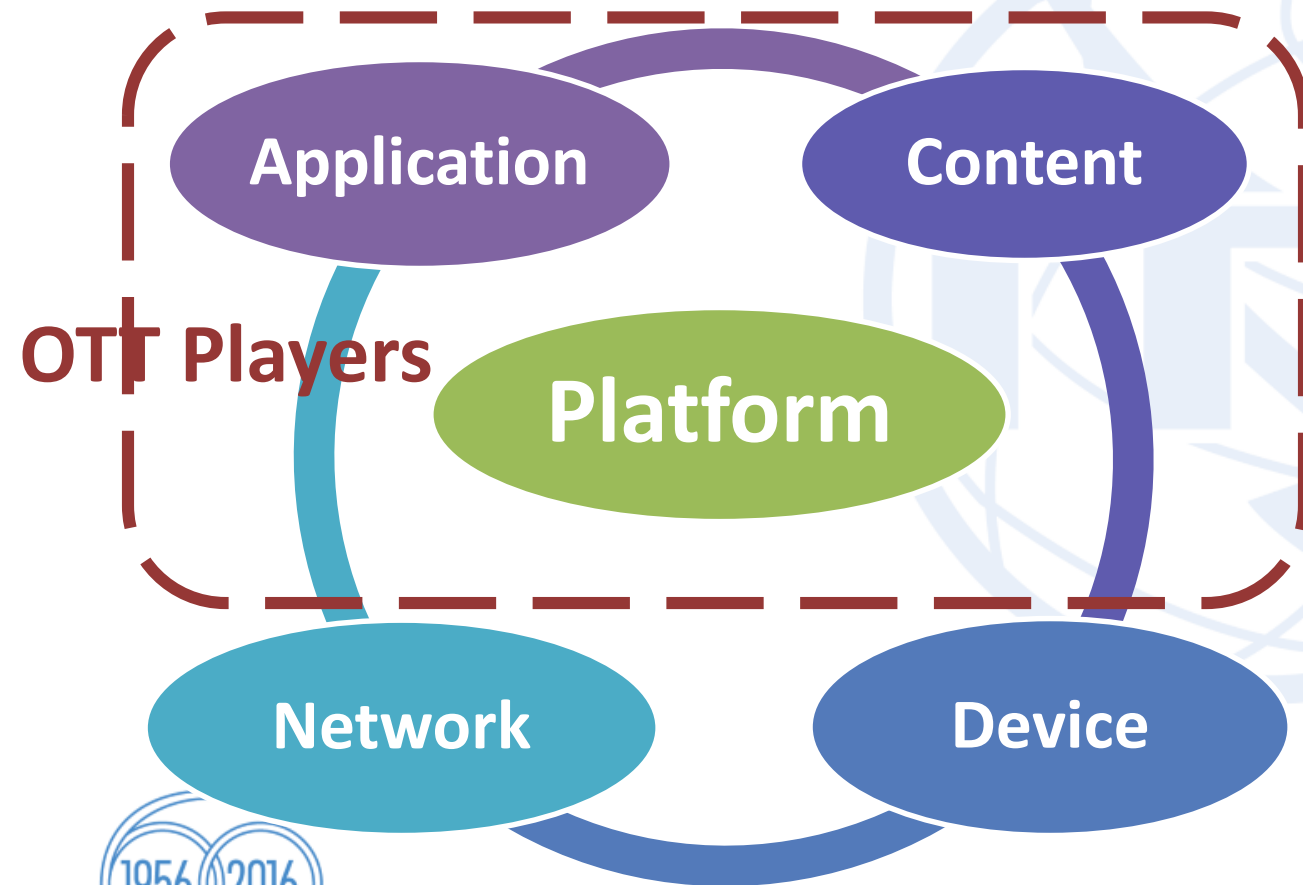
Overview

- I. The ICT Ecosystem and OTT Services
- II. OTT Discussions in ITU-T SG3
- III. Study on Economic Impacts of OTT
- IV. ITU-T Recommendation on OTT
- V. Future Work on OTT

I. The ICT Ecosystem and OTT Services



The ICT Ecosystem



- The emergence of smart media has been **shifting the paradigm in the ICT ecosystem.**
- Traditional services now integrated into internet based services, and OTT players became key players in the market.

What are OTT services?

- OTT services can be defined as **any service provided over the internet that bypasses traditional operators' distribution channel.**
 - VoIP: Skype, Viber, etc.
 - SMS: WhatsApp, Kakao Talk, Line, Telegram, etc.
 - Apps: search portals, news portals, banking, weather, shopping, etc.
 - Cloud Services: Dropbox, Google Drive, Apple icloud, etc.
 - Internet Television (Video streaming): Netflix, Hulu, YouTube, Amazon Instant Video, etc.

Issues raised from OTT services

- OTT services transfer contents through the open internet and mobile network.
- The openness of internet and mobile network led to a makeover of the traditional distribution channels of contents.
- New competition environment is emerging and is leading to emergence of new issues.
 - Network neutrality
 - Platform neutrality

Issues raised from OTT services

- ITU-T SG3's mandate: Tariff and accounting principles and international telecommunication/ICT economic and policy issues
- From ITU-T SG3's perspective
 - Telecom operators' revenue and investment
 - Innovation in ICT
 - Consumer benefits and protection

II. OTT Discussions in ITU-T SG3

Progress of OTT Work in ITU-T SG3

May 2014

- Establishment of the RG on Economic Impacts of OTTs
 - Objectives: To evaluate economic impact of OTTs on the development of telecom networks and services and come up with recommendation

Mar 2015

- Two work items were created (1. STUDY_OTT; 2. D.OTT*)
- Initiated a questionnaire survey to assist in the technical study on OTTs

Feb 2016

- “Study on the economic impact of OTTs”, a technical report draft was reviewed.
- A draft Recommendation on OTTs, D.OTT was developed.
- OTT questionnaire replies were reported.
- Two work items were created (1. D.OTTbypass; 2. D.OTTMNO**)

* 1. a study on economic impact on OTT; 2. an ITU-T Recommendation on economic impact of OTTs

** 1. OTT bypass; 2. MNO-OTT partnership

Progress of OTT Work in ITU-T SG3

Apr 2017

- “Study on the economic impact of OTTs”, a technical report draft was agreed.
- A draft Recommendation on OTTs, D.OTT will be further refined at the upcoming Rapporteur Group meeting.
- A new work item was created. (D.ConsumerOTT*)

* Consumer Redress Mechanisms and Consumer Protection for OTTs

III. Study on Economic Impact of OTT

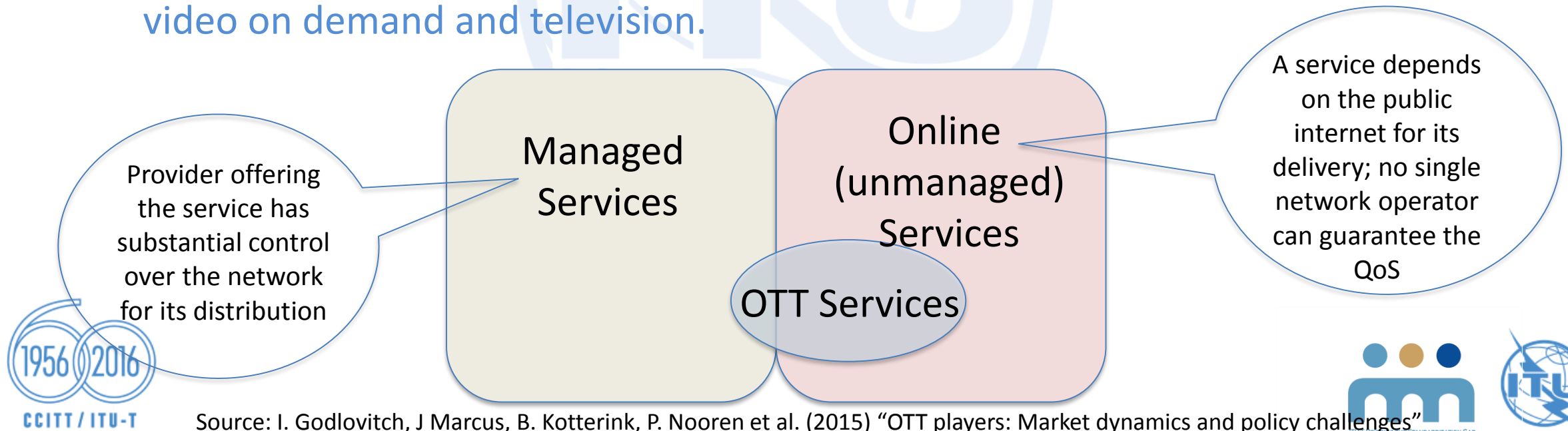
The Technical Report

Purpose and Structure of the Report

- Purpose
 - Understand what OTT services are and identify impacts, opportunities, and challenges
- Structure
 - What are OTT services?
 - Opportunities and impacts associated with OTT services
 - Policy challenges
 - Policy approaches attempted or taken in various parts of the world

What are OTT services?

- No single, universally accepted definition of OTT services
- Working definition of OTT service for this report
 - An **online service** that can be regarded as **potentially substituting for traditional telecommunications and audio visual services** such as voice telephony, SMS, video on demand and television.



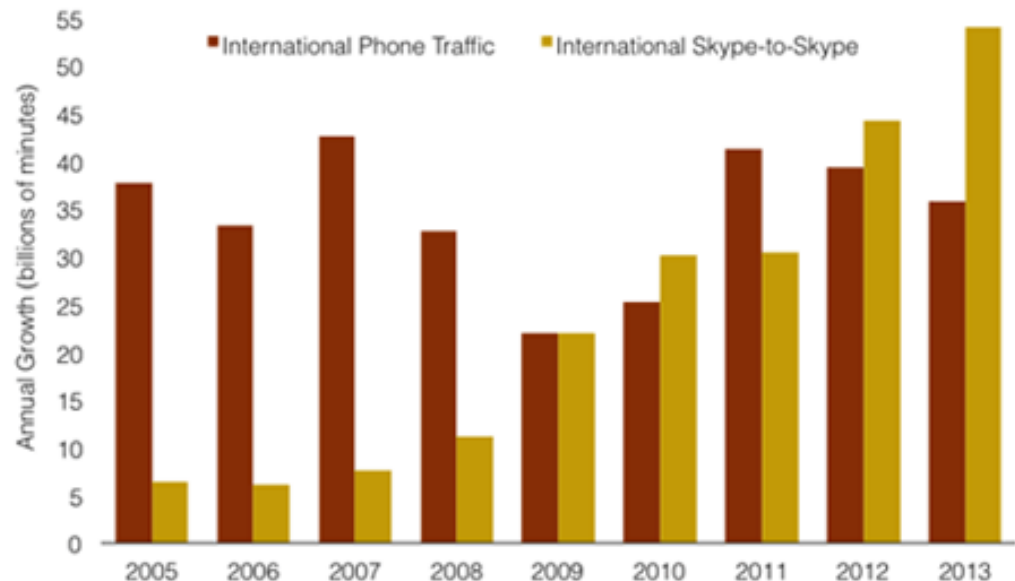
Source: I. Godlovitch, J Marcus, B. Kotterink, P. Nooren et al. (2015) "OTT players: Market dynamics and policy challenges"

Benefits of OTTs

- Driver of transformation of economies of both developed and developing countries
- Effects trickling down to small businesses and to individuals
- All services are online.
- Offer extensive capabilities that go well beyond traditional telephony and broadcasting

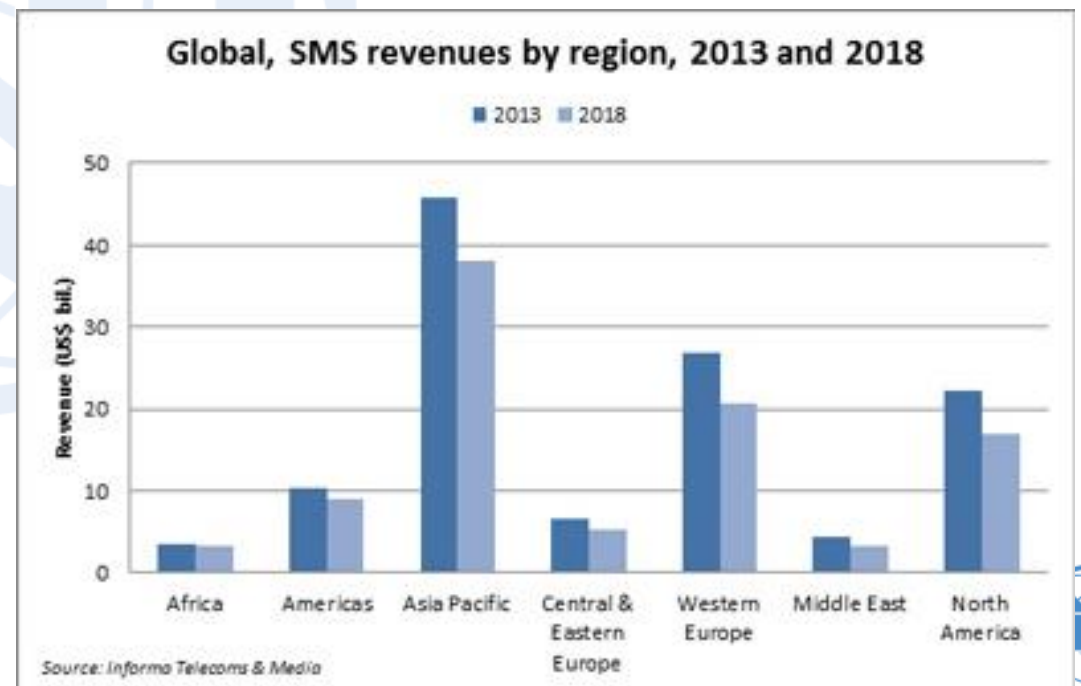
Impacts of OTTs

- On traditional service revenues
 - Decline in voice call revenue, especially in the international voice call sector
 - Decline in SMS revenue
 - Observed trends show substitution effects



Source: TeleGeography

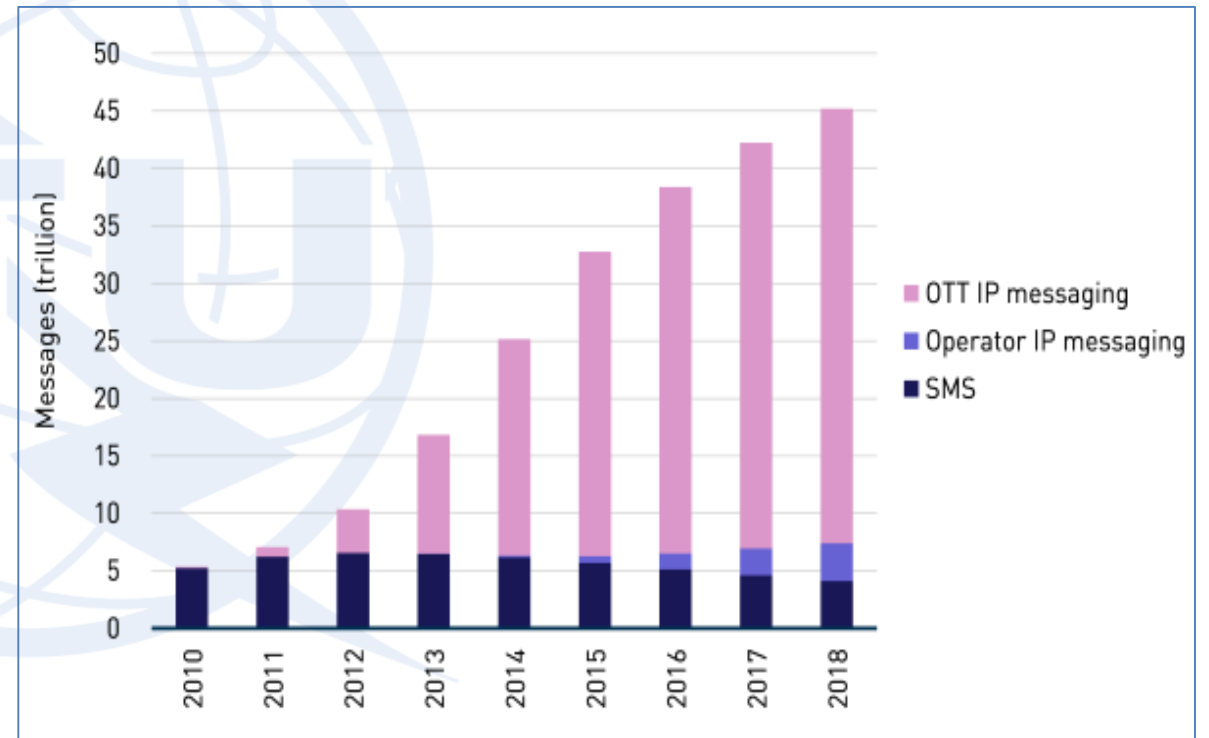
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Source: Informa Telecoms & Media

Impacts of OTTs

- On traditional service revenues
 - Increase revenues for mobile data services
 - E.g. In India, data usage increased from 49645 TB in Oct 2013 to 90267 TB in Dec 2014, showing a cumulative annual growth of 65.2%. → data revenue nearly doubled (TRAI)



Source: Analysys Mason, 2014

Impacts of OTTs

- On infrastructure cost and investment
 - Lower incentive for telecom operators to make investments in the network infrastructure
 - Declining revenues would stop telecom operators invest in the network infrastructure.
 - Internet traffic growth drives unbounded costs while flat rate prices prevented network operators from charging to recover their costs.
 - Alternative assessment
 - Internet traffic growth no longer reflects explosive growth.
 - Relevant unit costs decline year over year (Moore's Law) and offset any increase in traffic volume.

Impacts of OTTs

- On societal welfare
 - Consumers view **OTT as offering better price/performance than the services for which they substitute**. Usually less expensive than an equivalent service or offers better value overall.
 - Online services tend to **intensify competition and reduce the retail price**.
 - societal welfare = producer welfare + consumer welfare
 - Transfer of societal welfare from producer to consumers
 - Increased consumption due to price elasticity
 - Decrease in SMS/voice revenues compensated from data revenues (increase in no. of subscribers and traffic volume per subscriber)

Opportunities and Challenges

Strengths

- Increasing **speed, price-performance, and adoption of broadband services**, enhanced price performance (Moore's Law).
- Increasing **speed and capability of devices and services**, enhanced price performance (Moore's Law).
- **Increased capability of online platforms.**
- Growing network effects due to increased adoption.

Opportunities

- Gains in **market efficiency.**
- Consequent **gains in GDP** and in (skilled) **employment.**
- **Economies of scale and scope.**
- **Lower unit costs.**
- **Lower transaction costs.**
- **Overall acceleration of business.**
- **Enhanced innovation.**

Weaknesses

- Remaining limitations in fixed and mobile broadband coverage, adoption, and speed.
- **Inconsistent global approaches to the scope of regulation, to jurisdiction, to specific regulatory rules, to privacy, to network security, and to taxation.**
- **Limited capacity to create or operate OTT services in many countries.**

Threats

- Possible **negative impact on network operator revenues and profits**, with corresponding adverse **impact on taxes and on ability to invest.**
- **Increased risk of privacy and security breaches.**
- Risk of access and service monopolisation.
- Risk that the "digital divide" between developed and developing countries worsens.

Policy Challenges

- Competitive neutrality (“level playing field”)
- Possible need to authorize or license OTT services
- Challenges faced in determining country of jurisdiction
- Competition law and economics
- Threats to network operator revenues and profits
- Corresponding implications for investment in infrastructure

Policy Challenges

- Implications for Quality of Service
- Implications for consumer privacy
- Obligations for security and reliability of OTT services
- Possible measures to promote the use of OTT services

To resolve these challenges and establish a guidance to the membership, ITU-T SG3 developed D.OTT.

IV. ITU-T Recommendation on OTT

D.OTT

Draft Recommendation on OTT

- Creating a fair environment to encourage competition, innovation and investment in the digital economy
- Relationship between OTT and network operators
- Fostering innovation and investment
- Consumer protection and international collaboration

Draft Recommendation on OTT

- Definition of OTT

- An over-the-top (OTT) is an application delivered over the public Internet that may potentially substitute for traditional **international telecommunication services**.

- * *The definition of OTT is a matter of national sovereignty and may vary among Member States.*

Fair environment for competition, innovation, investment

- Member States should...
 - **Develop measures with a view to promoting competition, encouraging innovation and investment** in the international telecommunications ecosystem
 - **Assess the economic, policy and consumer welfare impacts of OTT** including the regulatory framework and economic incentives
 - **Develop enabling policies and/or regulatory frameworks** to foster fair competition between network operators and providers of OTT
 - **Consider fundamental differences** between traditional international telecom services and OTT

Relationship between OTT and network operators

- Member States should...
 - Consider inter-dependencies between operators and OTT providers
 - How consumer demand for OTT can affect increase in data demand and decrease in traditional service demand
 - Encourage cooperation between OTT and network operators
 - Stimulate innovation and investment in the development of telecom infrastructure

Fostering innovation and investment

- Member States should...
 - Foster **entrepreneurship and innovation in OTT application** and encourage sustainable **infrastructure investments**
 - In the spirit of service availability and affordability, **foster enabling legal and regulatory environments and develop policies**
 - fair, transparent, stable, predictable and non-discriminatory
 - promote competition, technological and service innovation
 - encourage private sector investment incentives

Fostering innovation and investment

- Member States should...
 - Participate and contribute to **global standardization** efforts to ensure **open, interoperable, portable, secure, and affordable services for consumers**
 - **Consider challenges** arise from exponential growth of OTT
 - Support for **innovation, demand stimulation, industry collaboration, and public-private partnership**

Consumer protection and international collaboration

- Member states and regulators should
 - Take appropriate measures to encourage all market participants to **maintain the security of networks** carrying data and help **protect consumers of OTT**
- Given the **global nature of many OTT**, collaboration across multiple Member States and Sector Members should be strongly encouraged.

V. Future Work on OTT

Future Work on OTT

- Development of Implementation Guidelines
- Study Work Items
 - D.OTTbypass: Telecom operators being left out of the value chain by their unaware subscribers
 - A call originating as a traditionally dialed voice call via the operator's PSTN is taken on a detour and terminated to the OTT application on the called party's smartphone
 - Deprives the receiving telecom operator from the termination fees; Growing source of losses for international inbound voice revenues
 - D.OTTMNO: Change of pricing structure with emergence of advanced network
 - From monthly charges based on access tech and download speeds (2G/GPRS) → capacity based bundles to special zero-rated pricing (LTE/4G)
 - Raises multi-faceted regulatory challenges between promoting the immediate access benefits of the zero rated pricing against probable anti-competition effects

Future Work on OTT

- Study Work Items
 - D.ConsumerOTT: Consider and address challenges arising by the emergence of OTTs, especially from a regulatory perspective
 - Emergence of OTT led to a number of threats to traditional telecoms, and there have been **debates worldwide whether OTT should be regulated or not.**
 - Some of the reasons to regulate OTT include the **importance of consumer protection and security and absence/lengthy consumer redress mechanisms for international cases.**
 - Objective is to study how Member States can address issues of **customer redress mechanism, security and consumer data protection** without stifling innovation, while promoting fair competition.



Thank you for listening.

Questions?

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