

# What Operators Want vs. What Device Vendors Provide, Conflict?



## Device Go-to Market Plans

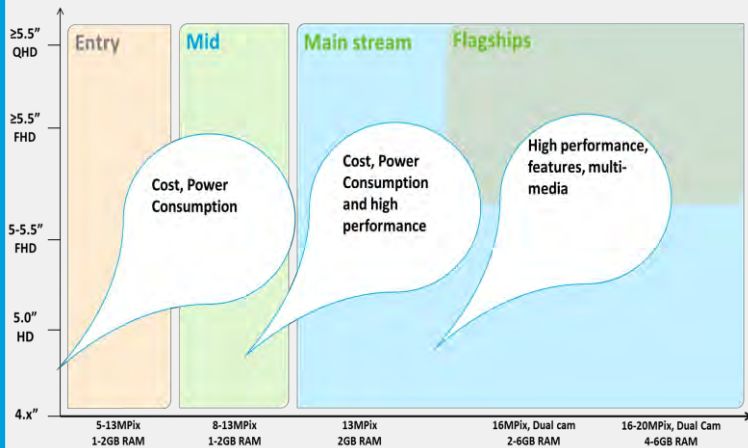
## Operators Migration Plans

- » Focus potentially more on Multimedia and Camera
- » Platform/modem capability vs. Cost

- » Migrate 3G/2G Spectrum to LTE
- » Leverage LTE based voice calling solutions on a well established telecom standards

**Example for Operators**  
 VoLTE leads to ~+11% increase in LTE Data consumption → keep users on LTE for RoI

### Cost effective Solutions with Nice Design



### Increased data-rate for the mainstream

More users enjoy higher data rates

### Increase Network capacity and improve coverage

More Carrier Aggregation devices will reflect positively to the network performance

# Multi Players Exist in Industry

Adhere to  
Global Trends



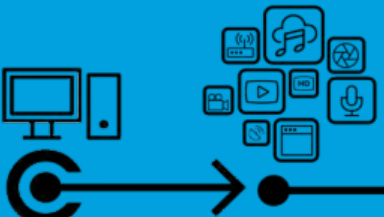
AP, Modem,  
Multimedia, VR/AR

facebook  
Demanding services

GOOGLE  
Revisions of Android

Regulatory Influence

IOT  
New players

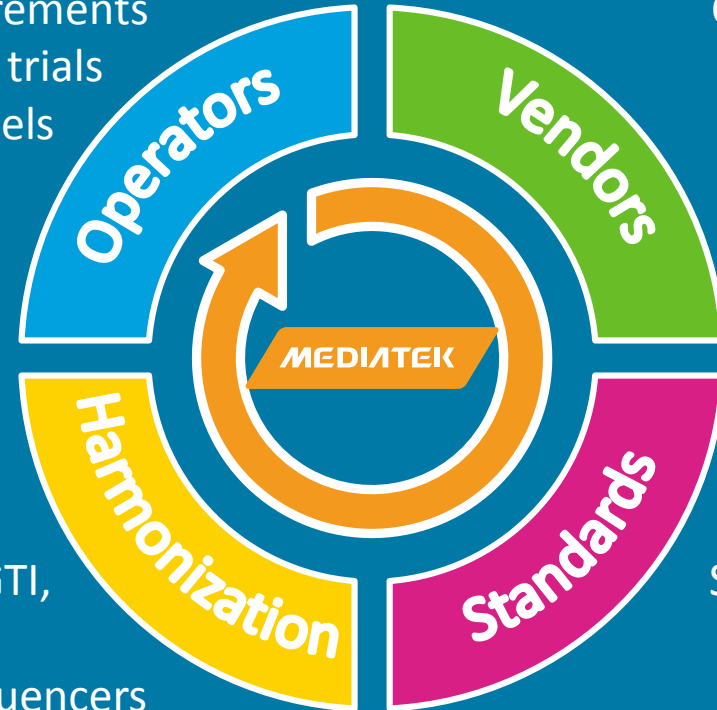


Chipset  
Vendors

Network &  
Service  
Providers

Global Markets  
Influencers

Market requirements  
Commercial / trials  
Business models



Chipset & Infra,  
Components,  
Suppliers,  
sales channels

GCF, GSMA, GTI,  
IPA, GSA,  
Spectrum influencers

Standardization  
Bodies,  
3GPP, IETF, ITU

Device vendors must work across  
all these influencers, features  
time to market impact !!



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DEVICE  
CUSTOMIZATION  
FOR  
OPERATORS



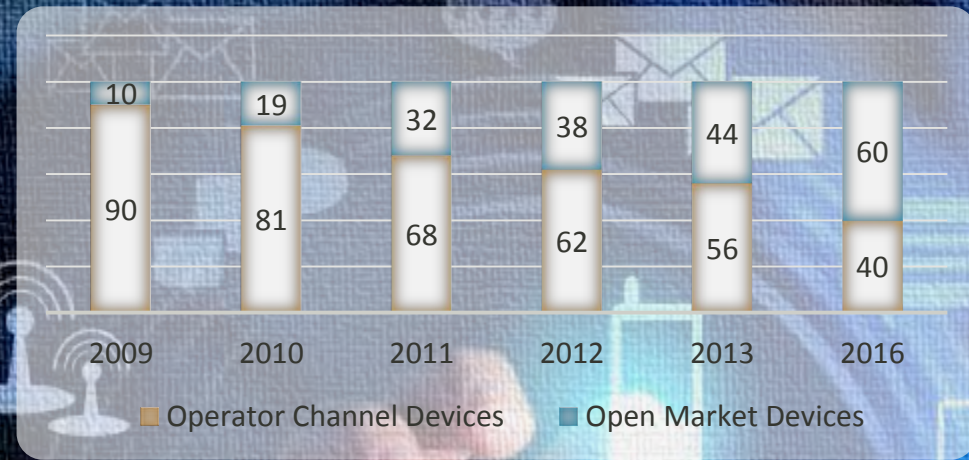


# Market Challenge

# 60%

**OF TOTAL DEVICES SHIPPED GLOBALLY ARE OPEN MARKET DEVICES**

- Differences in operator implementations of 'standard' services causes device-network interoperability issues
- Operator-specific SKUs may not be suitable for all features – address hardware/APP more than software



# 1

A certification process that takes **time and effort**, increasing time to market and cost

# 2

Consumers are now more **demanding** of latest services and technology, prefer latest devices instantly

# 3

“Open Market” devices reach the market much faster today, with **minimal Operator’s compliance testing!**

# Operator and Consumer Benefits of Customization

## Above the line Customization (ATLC)

- Visible at customer level
- MNO Service portfolio of own and partner apps
- MNO user experience / user interface (e.g. branding)

## Below the line Customization (BTLC)

- Modem & Network Level
- Optimizations for MNO networks e.g. modem configuration, LTE evolution, VoLTE, IPv6

## Benefits to Operator/Consumer

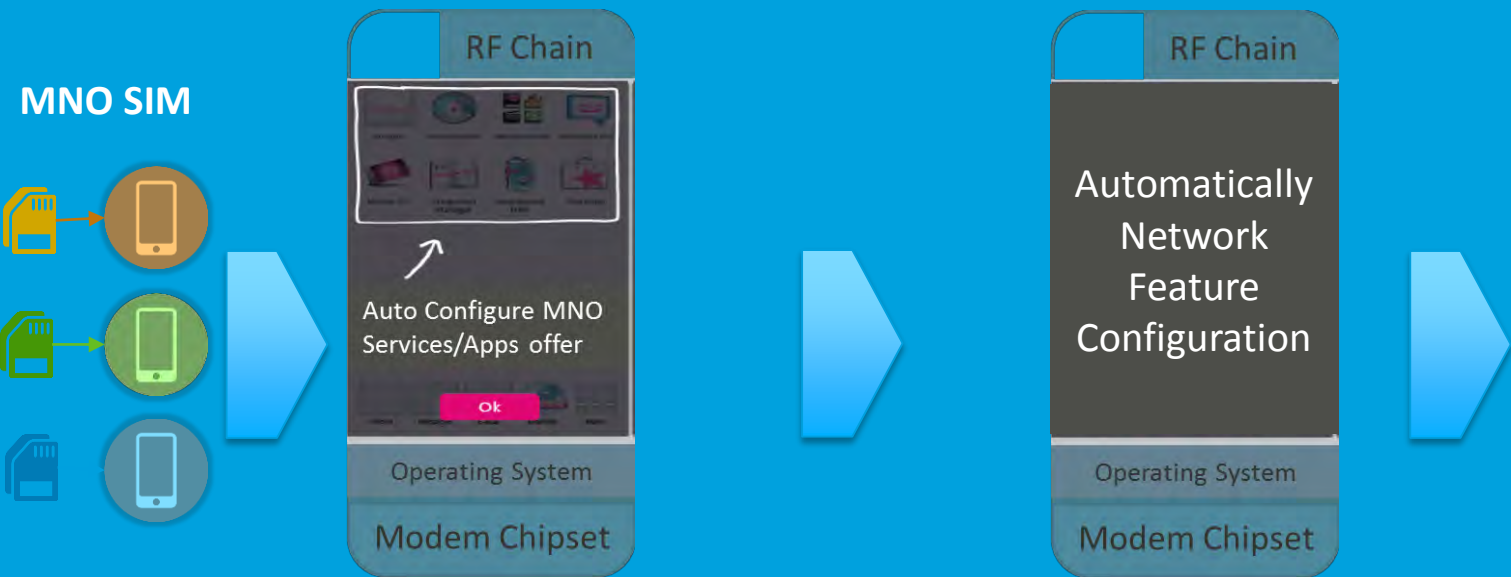
For All variants

Single software SKU

Improved customization & development

Guaranteed Time to Market with proper testing

Features matching between UE and Network



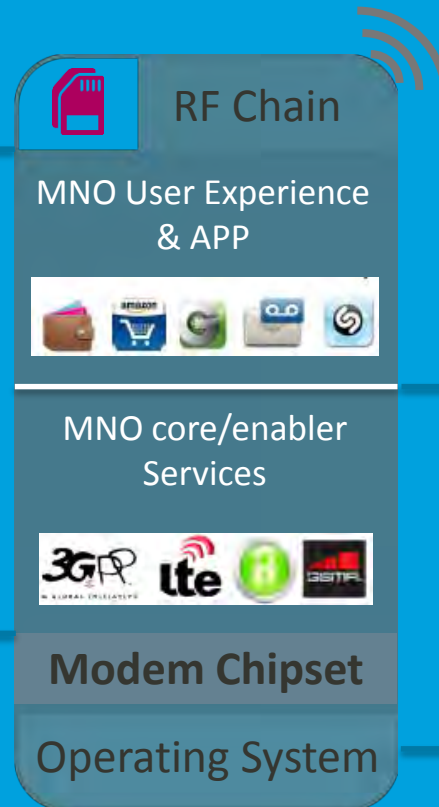
# Operator Customization Model

## 1 Define SIM Card Detection Mechanism (e.g. MVNO, one-SIM cases?)

- Application / customization loading during boot up
- Without data connectivity purely through SIM card identification/detection

## 2 Define Configuration Settings and Technology Parameters

- Auto Configure Modem & Network features
  - WB-AMR, APN, NFC, SMS/MMS, VoiceMail, radio parameters, Network Indicator
  - RCS, VoLTE, VoWiFi ViLTE



## 3 Define Application Configuration and Layout compatible with HW/OS

- Global Apps (single country)
- Local apps (single country)
- 3<sup>rd</sup> Party APPs

## 4 Operating System Impact?

- Google Mobile Services (GMS)
- Not fully studied

# Device Customization Solution – GSMA Concept

Set the standard for device configuration processes and decrease the operational costs

One device software for variant markets



To facilitate the market access for Open Market Devices

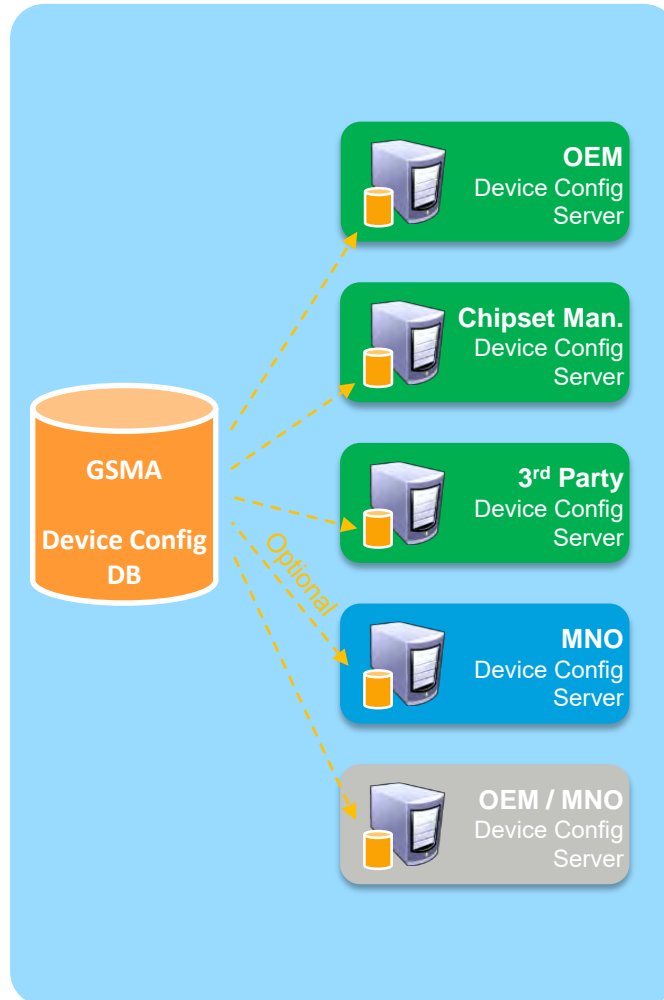
A common device configuration solution for MNOs, device OEMs and chipset providers



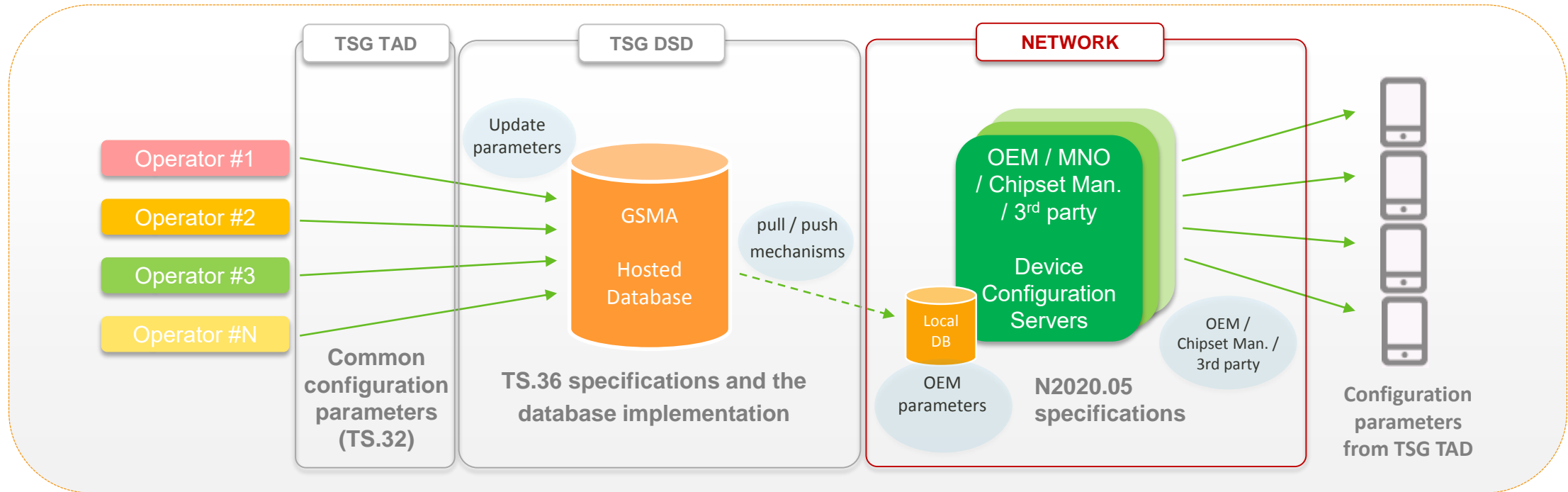
SIM-based Detection with Global Database

Resource embedded and/or Over the air

- Carrier/Country requirements
- Common customization



# Future of Customization for all Devices – GSMA Concept

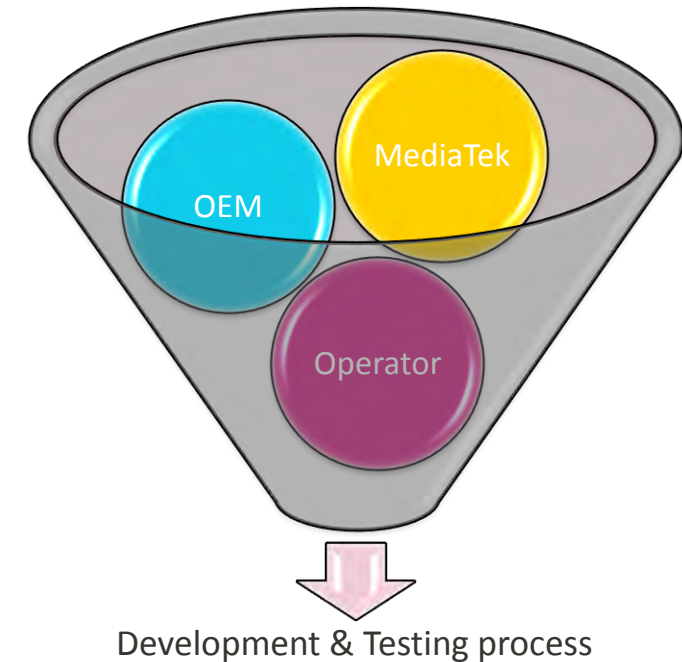


Target	Solution Approach	Impact
<ul style="list-style-type: none"> <li>• Enable customization on open market devices</li> </ul>	<ul style="list-style-type: none"> <li>• SIM based post launch customization independent of sales channels</li> </ul>	<ul style="list-style-type: none"> <li>• Maximum reach of customization benefits</li> <li>• Unified and simpler processes for MNO and OEM, better time to market</li> </ul>



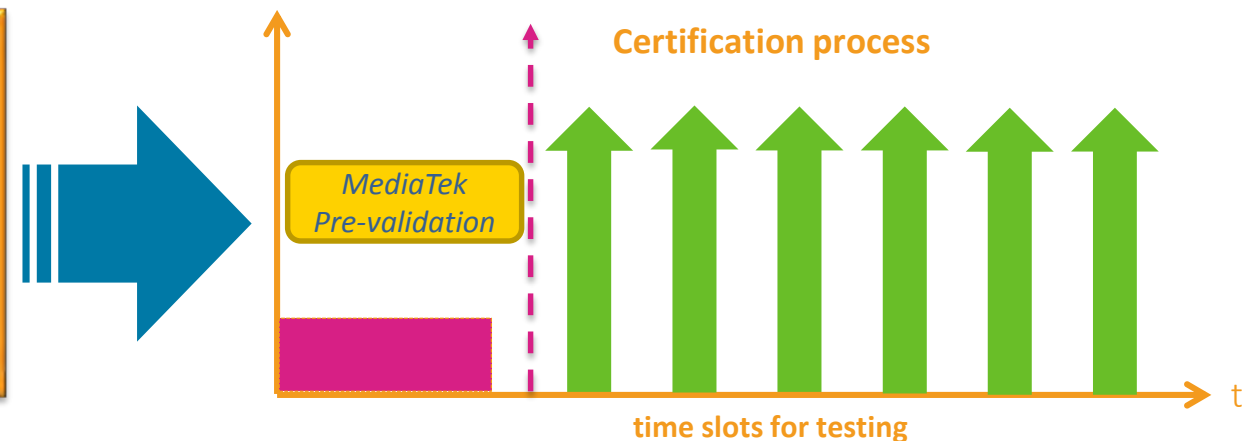
# Testing Process – example from MediaTek Global Experience

- MediaTek uses a model inspired by its turnkey solution and designed to assure:
  - Faster product development.
  - Reduced compliance testing and time to market
  - Ensure optimal performance and best quality
  - Lower costs to develop and sell handsets
  - Enhanced flexibility & differentiation at all levels of the value chain



MediaTek will implement and test carrier feature requirements to reduce testing iterations on carrier side

MediaTek will also provide the brands with all the features already approved



# Development & Testing Process

1

**Establishes Technology Roadmap  
Review process with vendor prior  
to deployment**

2

**Certification requirements  
released to vendor in advance**

3

**Vendor implements & tests key  
new feature on network prior to  
commercial deployment**

4

**Vendor integrates the  
requirements and maintains pre-  
validated package for the operator**





4

# CONCLUSION AND DISCUSSIONS





# Conclusion & Discussion

- Actively participate/share
- Wait for the finalized agreements among all players
- Is it mandatory ?

Wait for GSMA Customization

Setup a new Process

- Effort and Expertise
- Resources
- Labs & equipment
- Time

How much volume needed to convince vendors to do customization?

How much effort ODMs need to do to follow standard if they have pre-set solution?



Who takes the primary control of the market – if you don't have direct sales channels?

How to manage flagships and tier one OEMs ?



CONNECTING  
the next billion

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ANNIVERSARY