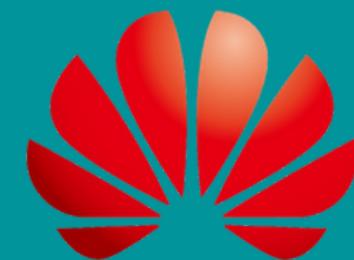




YALOVA UNIVERSITY

---



HUAWEI

# Android Programming with Huawei Mobile Services

Berk Ozyurt  
Mehmet Yozgatli  
Cengiz Toru

# W1: ACQUAINTANCE

- Acquaintance
- About Huawei Turkey R&D Center
- Mobile Ecosystem
- Introduction to Huawei Mobile Services
- Programming Language Information
- Introduction to Developer Portal
- Introductory



# Acquaintance

# Academic Team



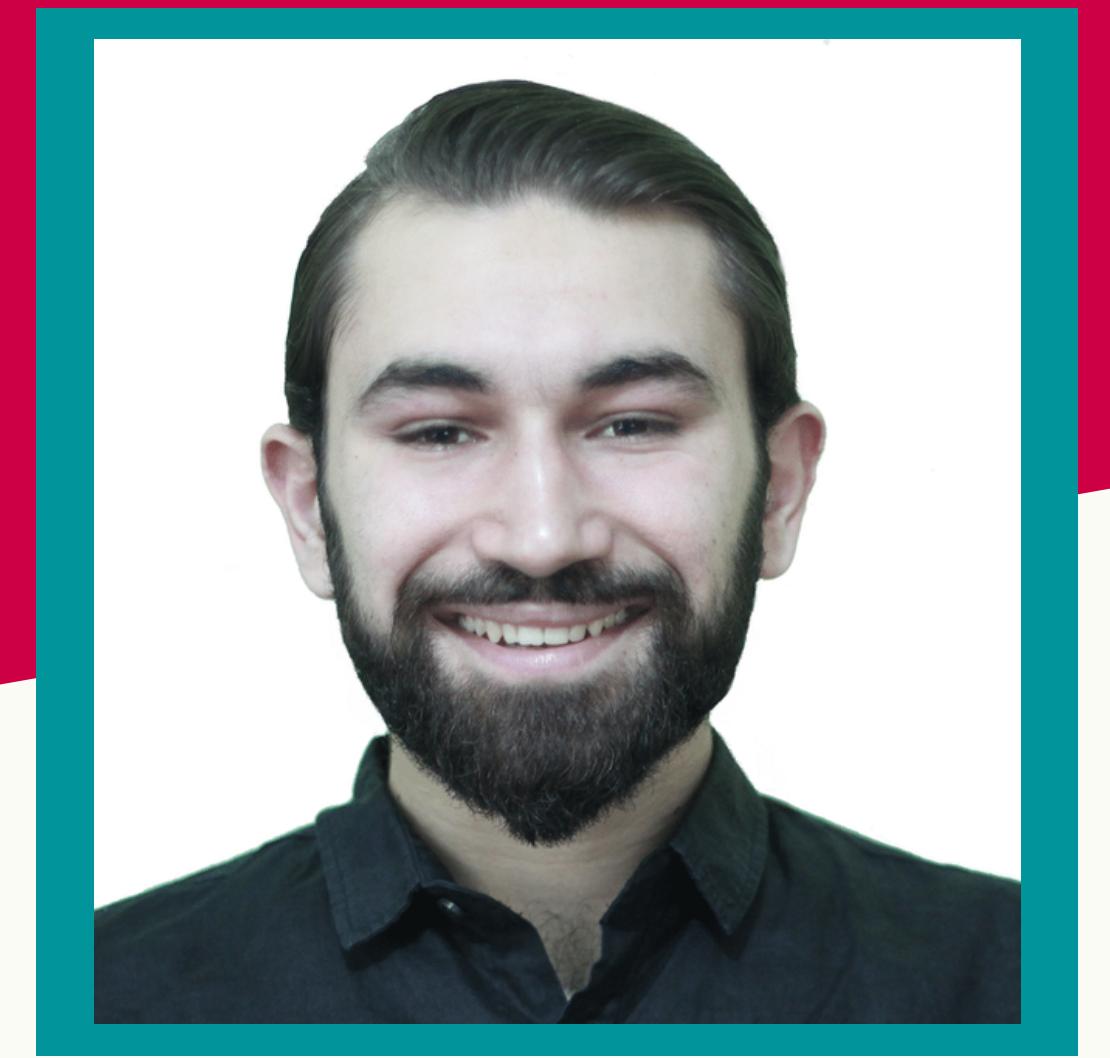
Berk Ozyurt

Developer Partner Engineer



Mehmet Yozgatli

Developer Partner Engineer



Cengiz Toru

Developer Partner Engineer

# LESSON PLAN

## WEEKLY



### 1. Week

- Acquaintance
- About Huawei Turkey R&D Center
- Mobile Ecosystem
- Introduction to Huawei Mobile Services
- Programming Language Information
- Introduction to Developer Portal
- Introductory



### 2. Week

- Kotlin Basics
  - Basic types
  - Type checks and casts
  - Collections
    - Arrays
    - List
    - HashMap
  - Control Flow
    - If -else
    - When (switch-case)
    - For loop, foreach
    - While loops
    - Break, Continue, Return



### 3. Week

- Kotlin Basics
  - Functions
  - Classes
- Kotlin OOP
  - Inheritance
  - Encapsulation
  - Abstraction
  - Polymorphism



# About Huawei Turkey R&D Center & Huawei

By 2020:

Total **184M+ USD**  
investment

**750+** employees with:

- Researchers
- Software Developers
- Software Testers
- System Engineers
- Solution Architects
- Project Managers
- Quality Assurance
- Engineers



10 yıldır Türkiye'de  
Türkiye için...

Delivered projects to:

**40+**

customers

**30+**

countries

**100+**

projects

**2000+**

ICT Talents cultivated

**31**

TUBITAK TEYDEB Projects  
Submitted

**12**

TUBITAK TEYDEB Projects  
Approved

**Patents:**

**4** Approved

**11** Applied

**20+** Papers  
published

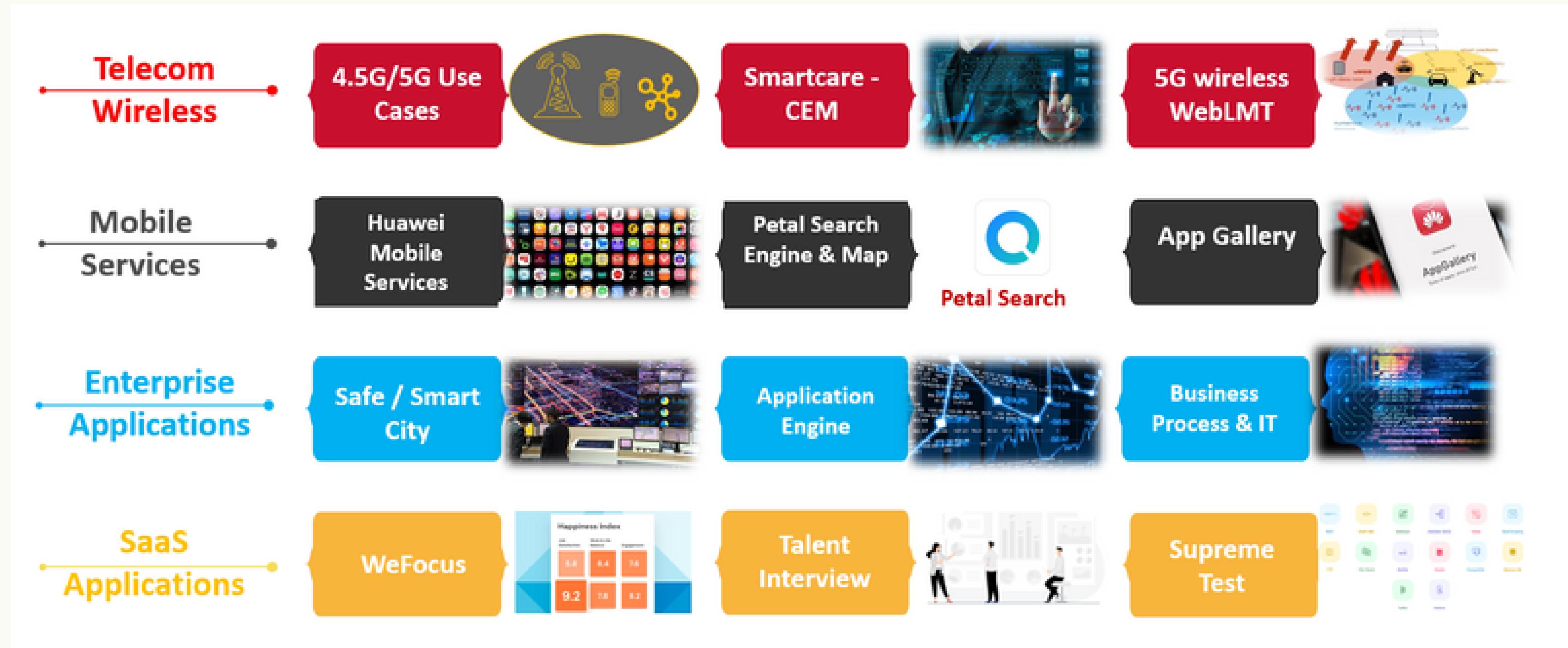
**Cooperates with :**

**15** Top Universities,

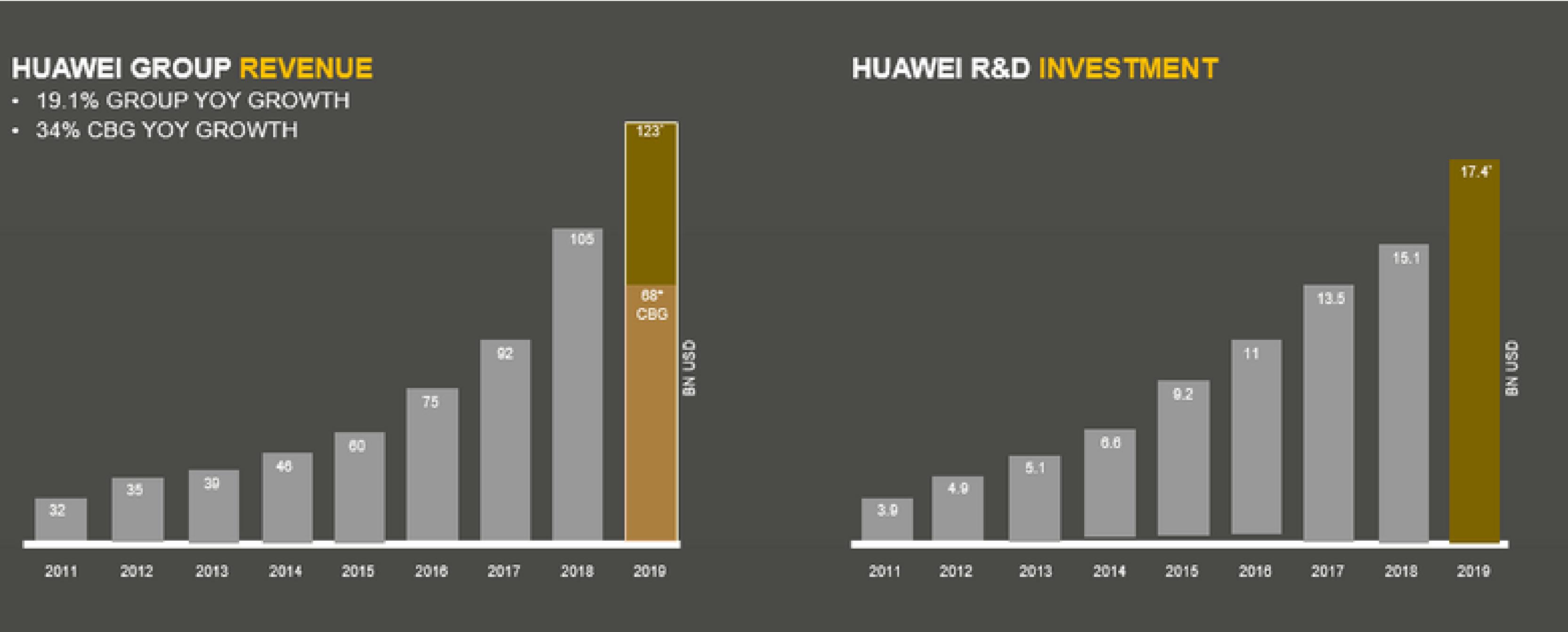
**18** Professors



# Huawei Turkey R&D Innovation & Projects



# Continious Growth & Relentless Innovation



# Global Device Business



# Developer Programs

Shaping the future of technology together  
with industry partners and talent app developers

< H-STAR >  
Huawei Shining-Star Program

Apps UP  
2021

1B\$  
Global Incentive

1M\$  
Global Awards

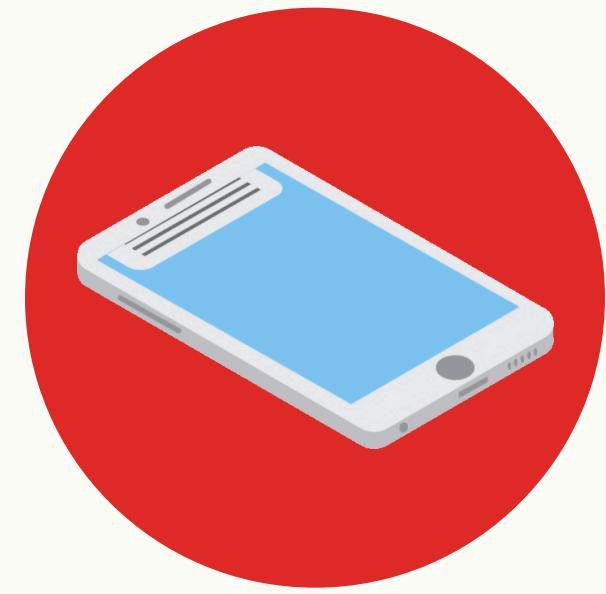
< HSD >  
Huawei Student Developers

100+  
University

1M€+  
Innovation Incentive

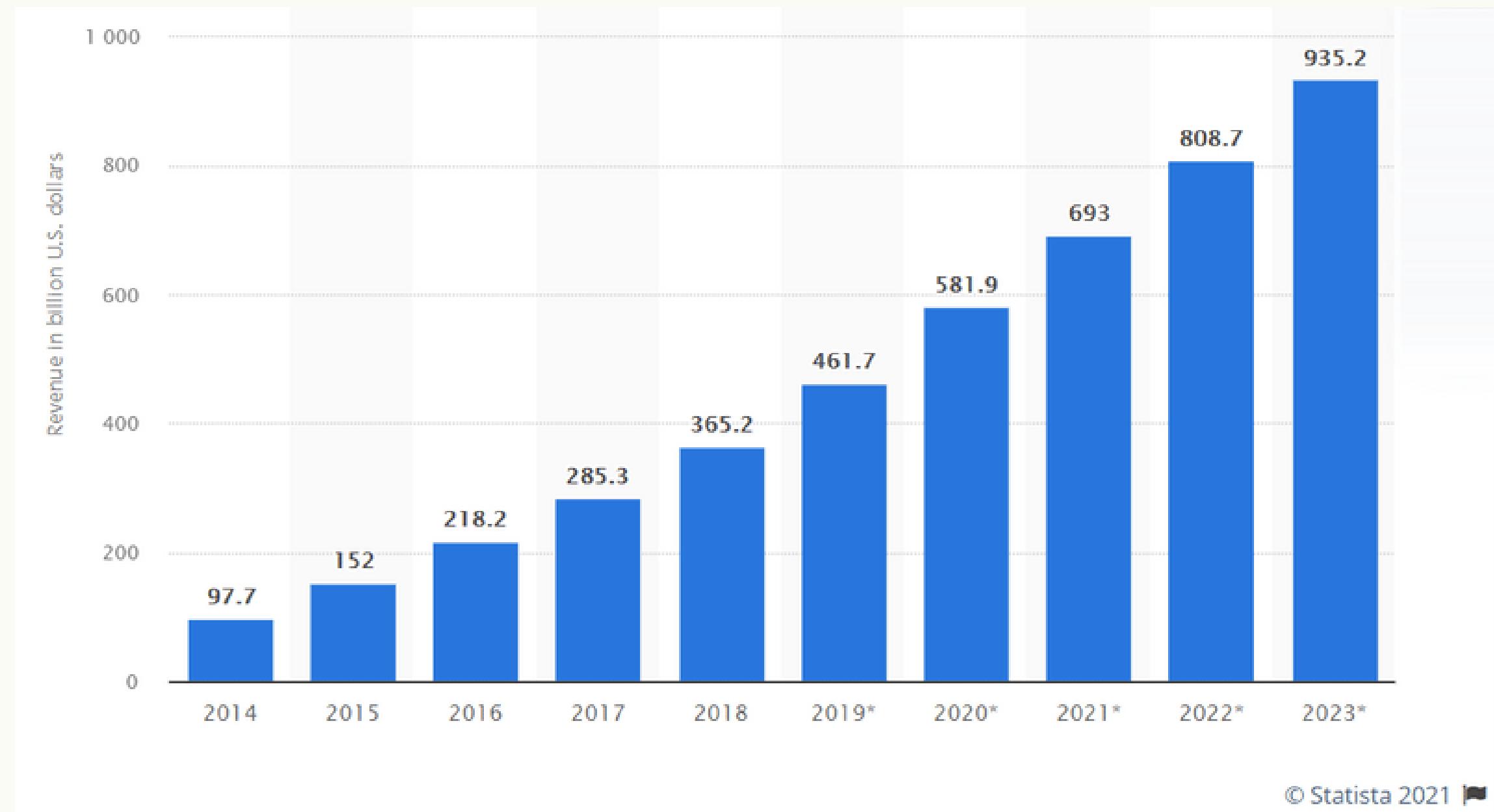
100+  
Student Developer  
Codelabs

Student Developer Program  
3 Years' Vision in Europe



# Mobile Ecosystem

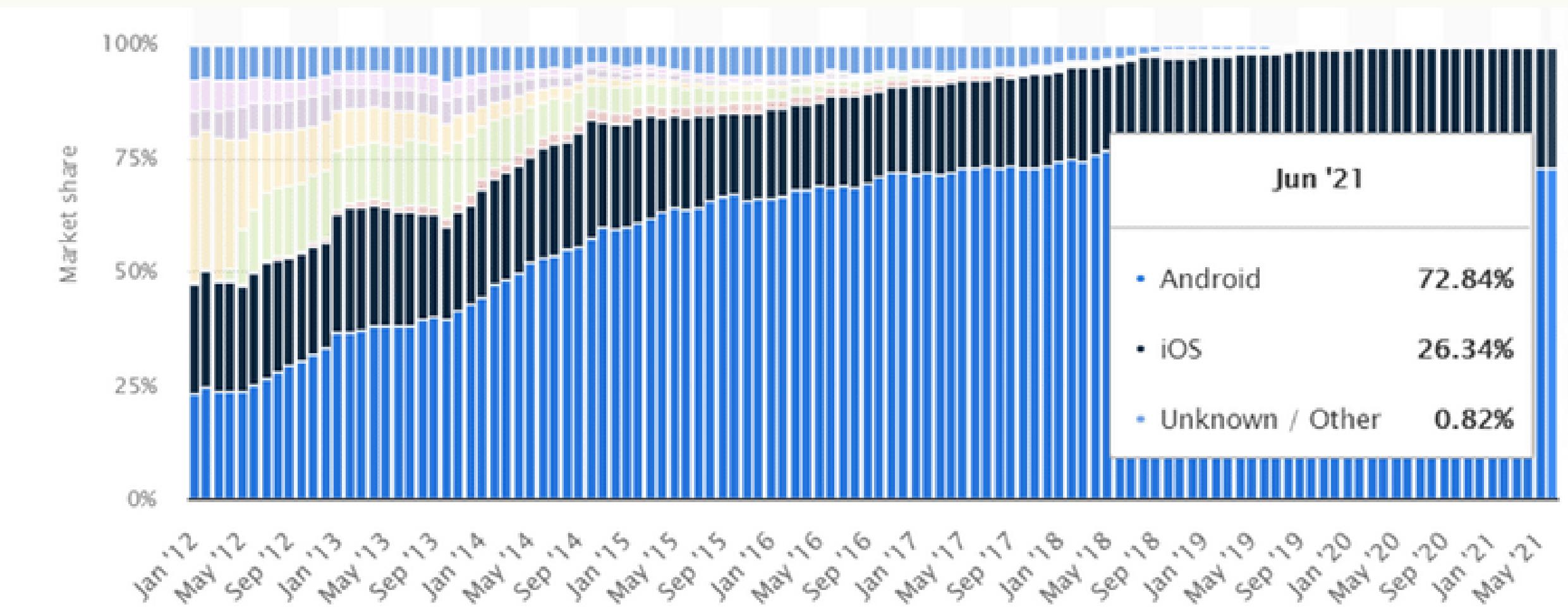
# App Market Business



# Market Share

android 

iOS



● Android

● Series 40 (Nokia)\*

● Unknown / Other

● iOS

● Symbian OS\*

● KaiOS

● Samsung

● Windows Phone

● BlackBerry OS

© Statista 2021



What are the Operating Systems  
in the Mobile Development  
System?



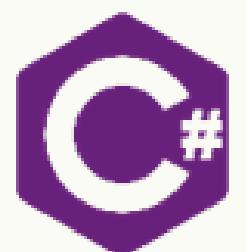
Cross  
Platform

 Swift

 Objective-C

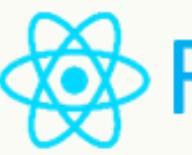
Java

 Kotlin

 C#

 Java

 Flutter

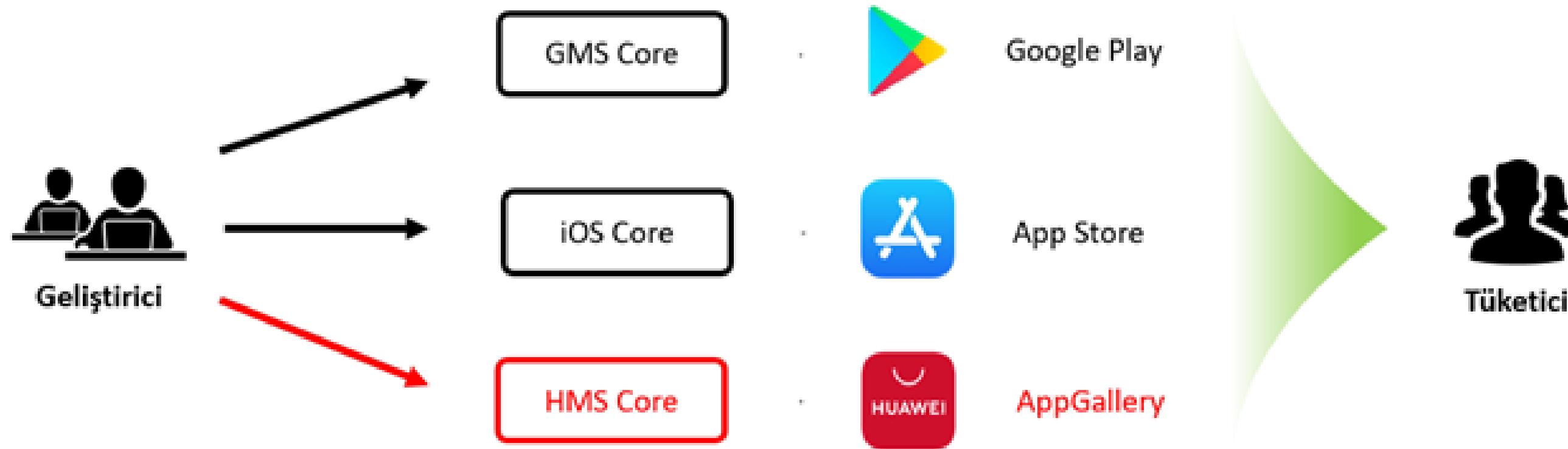
 React Native



# Huawei Mobile Services Ecosystem

# HUAWEI MOBILE SERVICES

Huawei Cloud Service provide to developers quickly allows to



# HMS Ecosystem

Huawei Mobile Services keep growing rapidly worldwide

**700M+**

Global Device MAU  
(+16%)

**580M+**

Global Mobile Services MAU  
(+45%)

**390M+**

Global HUAWEI ID MAU  
(+39%)



# Huawei Apps

**Hardware + Software + Contents**  
**The Ultimate Experience of Audio-visual Entertainment**

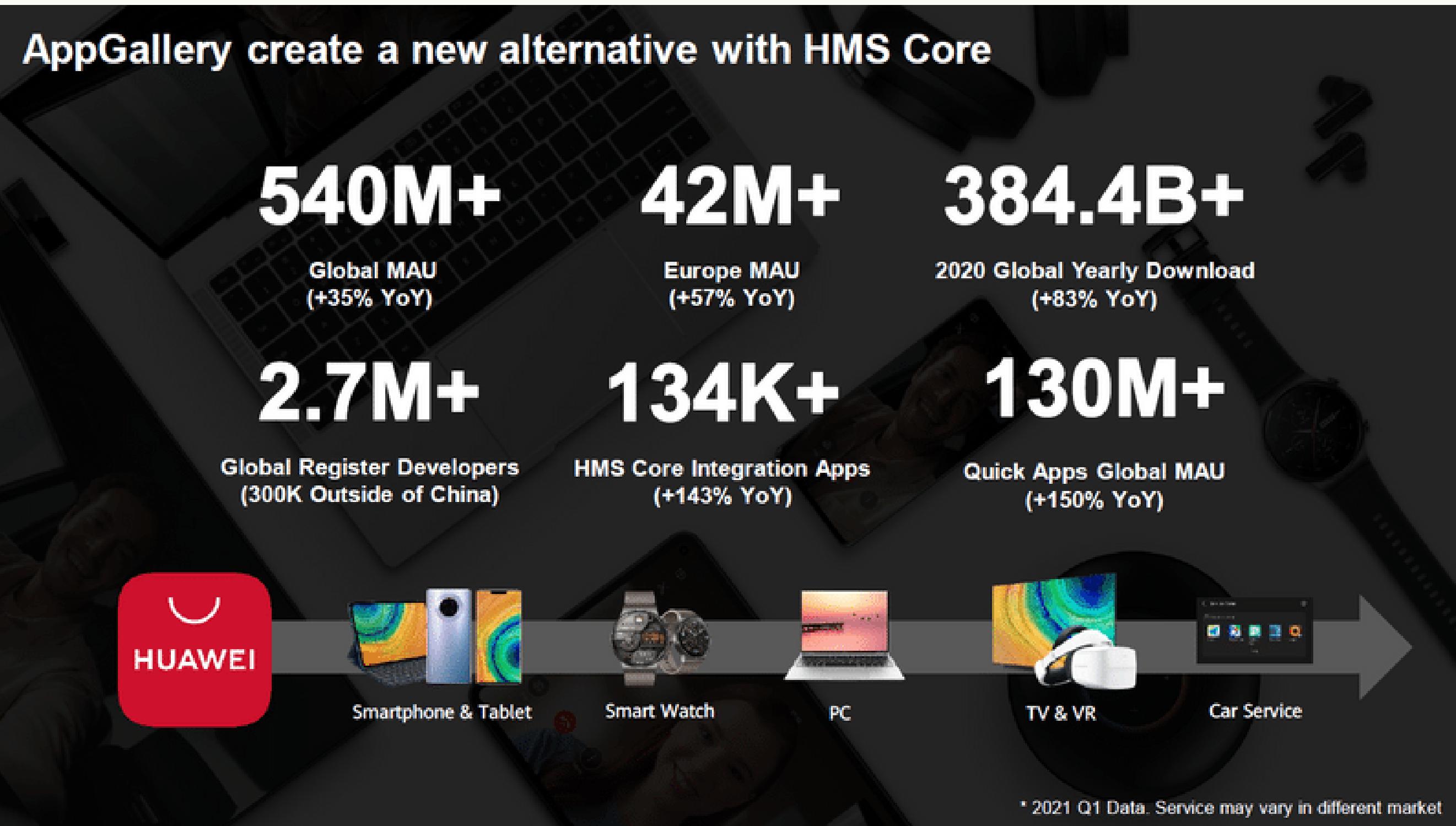
8000+ Top Hollywood Movie from Sony, Warner, Fox, Disney, etc.

60M+ High Quality Soundtracks  
10M+ Selected Albums

Top Games with exclusive activities & offers

\* Europe market data. Service may vary in different market

# AppGallery



# Huawei Ability Gallery

## HUAWEI Ability Gallery: 10K+ Services, 6B+Monthly Distribution

The image displays a grid of mobile application screenshots and icons, illustrating the range of services available through the HUAWEI Ability Gallery. The categories shown include:

- Services**: Education, Flight, Stock, Social service, Business, Taxi, E-commerce, Media & Entertainment, Healthcare, Hotel.
- Devices**: Represented by icons for smartphone, tablet, laptop, and car.
- Touch Points**: Represented by icons for lightbulb, globe, camera, map, and speech bubble.

Below the grid, there is a row of logos for HUAWEI Ability Gallery Partners, including globkurier.pl, SEZAME.CZ, SQUID, TELETRADER, THE INFORMATION COMPANY, I-ONLINE.DE, Kshoot!, 365 PRINT, eSky, Lint, RT, and W.

**HUAWEI Ability Gallery Partners**

# Petal Search

Petal Search: Re-search your possibilities

3.9M+  
Monthly Active User  
In Europe

Recommendations (Channels)

The collage includes the following categories:

- Weather
- Sports
- News
- Visual Search
- Nearby
- Shopping
- Travel
- Restaurants
- Flights
- Hotels
- Movies, Series

\* 2021 Q1 Data

# Petal Maps

**Petal Maps: A New Way to explore the world**

The collage illustrates various features of the Petal Maps application:

- Map Display & Positioning**: Shows a map of a city area with street names like "Rue de la République" and "Boulevard de l'Amiral Foch".
- Map Search**: Shows a search interface with results for "Boulevard de l'Amiral Foch" and "Boulevard de l'Amiral Foch".
- Car Route Planning**: Shows a map with a green route line and a summary table for traffic conditions.
- Transit Route Planning\***: Shows a map with a green route line and a summary table for traffic conditions.
- Car Navigation**: Shows a navigation screen with a green route line, distance (5.3 km), and time (27 mins).
- UGC (POI Edition)**: Shows a report interface for a POI, including fields for category, name, address, phone number, and reporting reason.

**140**  
Countries & Region Coverage

**180M+**  
Global POI Data

**26**  
Navigation broadcast Languages\*

# DigiX Lab

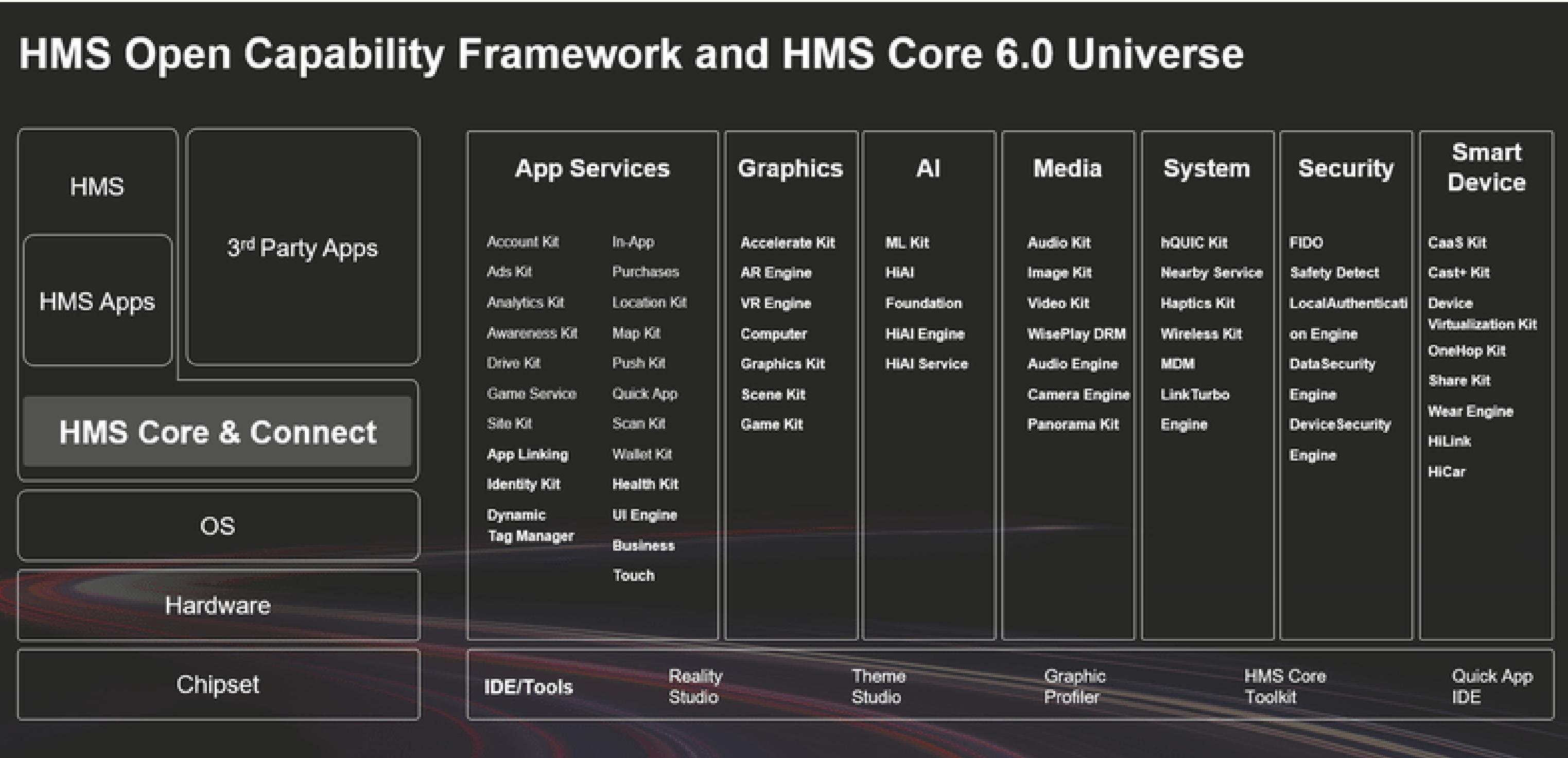
## DigiX Labs accelerate 5G & AI Innovations

DigiX LAB

- Security and privacy compliance
- Equipped with 5G and seamless AI environment
- Online cloud testing and debugging services.
- 250+ Latest Devices for app testing
- 150+ Developer Technical Engineers in Europe

7 DigiX Lab Globally, 2 in Europe

# HMS Core 6.0 Open Capabilities

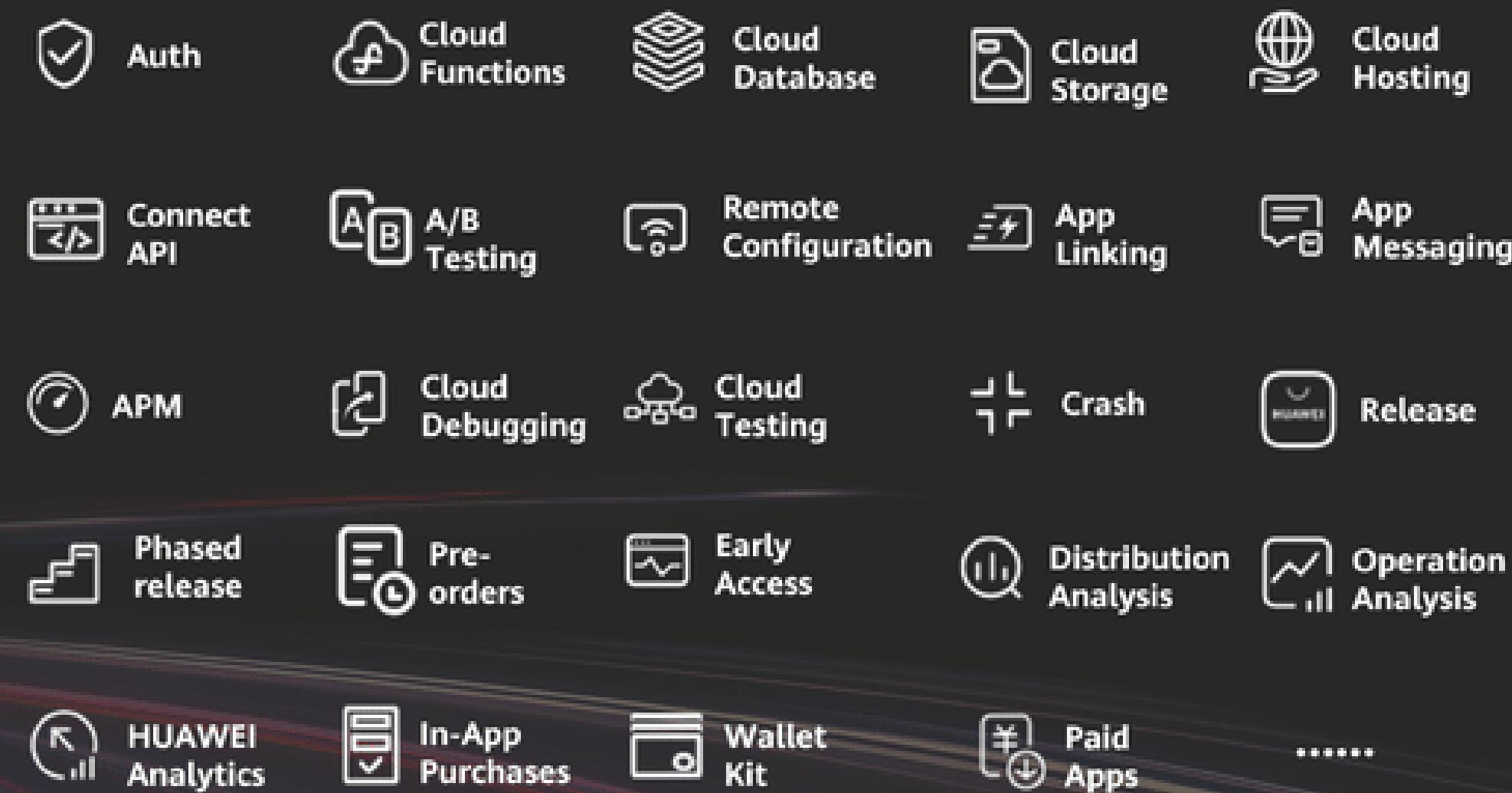


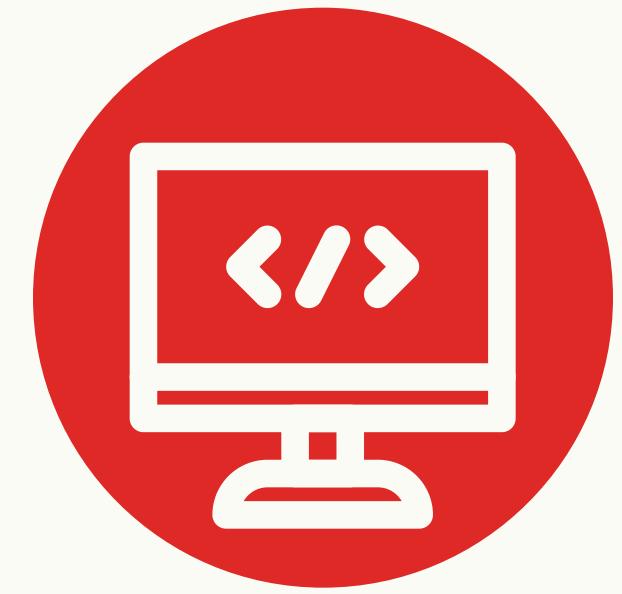
# AppGallery Connect Services

Grow your apps with AppGallery Connect (69 Services by the end of 2020)



One-stop App Services



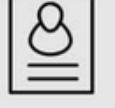


# Programming Language Information

# FUNCTIONAL PROGRAMMING vs OOP

#1. Definition	
<b>Functional Programming</b> 	<b>OOP</b> 
Functional programming emphasizes on evaluation of functions.	Object oriented programming based on concept of objects.
#2. Data	
<b>Functional Programming</b> 	<b>OOP</b> 
Functional programming uses immutable data.	Object oriented uses the mutable data.
#3. Model	
<b>Functional Programming</b> 	<b>OOP</b> 
Functional programming does follow declarative programming model.	Object oriented programming does follow imperative programming model.

#4. Support	
<b>Functional Programming</b> 	<b>OOP</b> 
Parallel programming supported by Functional Programming.	Object oriented programming does not support parallel programming.
#5. Execution	
<b>Functional Programming</b> 	<b>OOP</b> 
In Functional programming, the statements can be executed in any order.	In OOPs, the statements should be executed in particular order.
#6. Iteration	
<b>Functional Programming</b> 	<b>OOP</b> 
In Functional programming, recursion is used for iterative data.	In OOPs, loops are used for iterative data.

#7. Element	
<b>Functional Programming</b> 	<b>OOP</b> 
The basic elements of functional programming are Variables and Functions.	The basic elements of object oriented programming are objects and methods.
#8. Use	
<b>Functional Programming</b> 	<b>OOP</b> 
The functional programming is used only when there are few things with more operations.	Object oriented programming is used when there are many things with few operations.

# WHAT IS KOTLIN?

## History

In July 2011, JetBrains unveiled Project Kotlin, a new language for the JVM. The name comes from Kotlin Island. Kotlin was released on 15 February 2016. This is considered to be the first officially stable release. At Google I/O 2017, Google announced first-class support for Kotlin on Android. On 2019, Google announced that the Kotlin programming language is now its preferred language for Android app developers.

## Overview

Kotlin is an open-source, statically-typed programming language that supports both object-oriented and functional programming. Kotlin provides similar syntax and concepts from other languages, including C#, Java, and Scala, among many others. Kotlin is officially supported by Google for Android development.

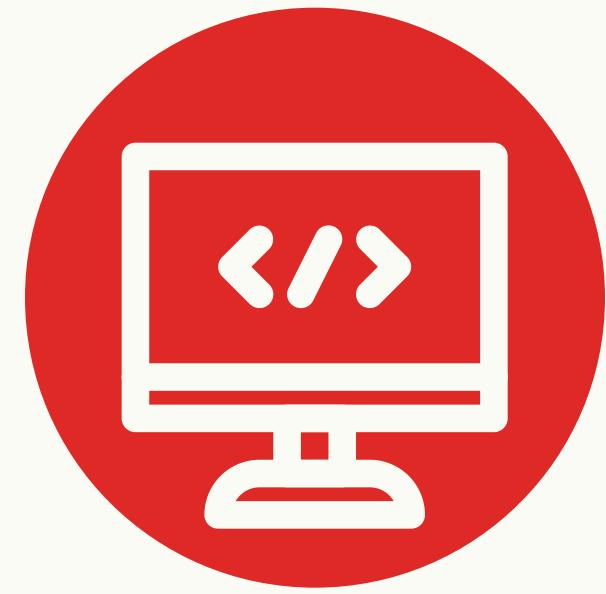
# **WHY KOTLIN INSTEAD OF JAVA**

- Shorter program for the same task
- Easy Code
- Java Compatibility
- Eliminating Null References
- Solution To Some Of Java's Flaws

**Sources :**

<https://analyticsindiamag.com/5-reasons-why-developers-choose-kotlin-over-java/>

<https://kotlinlang.org/docs/comparison-to-java.html>

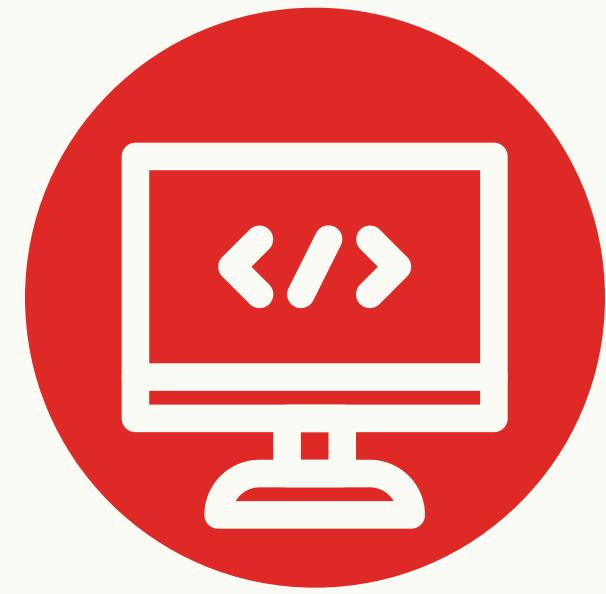


# Developer Portal

# Useful Links

## HUAWEI MOBILE SERVICES

<b>Android Tutorial:</b>	<a href="https://medium.com/mindorks/tagged/android">https://medium.com/mindorks/tagged/android</a>
<b>Developer Portal:</b>	<a href="https://developer.huawei.com/consumer/en/hms">https://developer.huawei.com/consumer/en/hms</a>
<b>HMS Trainings:</b>	<a href="https://developer.huawei.com/consumer/en/training/">https://developer.huawei.com/consumer/en/training/</a>
<b>HarmonyOS Portal:</b>	<a href="https://developer.harmonyos.com/en/">https://developer.harmonyos.com/en/</a>
<b>Medium Huawei Developers (EN):</b>	<a href="https://medium.com/huawei-developers">https://medium.com/huawei-developers</a>
<b>Medium Huawei Developers (TR):</b>	<a href="https://medium.com/huawei-developers-tr">https://medium.com/huawei-developers-tr</a>
<b>MeetUp HDG Turkey:</b>	<a href="https://www.meetup.com/hdgturkey/">https://www.meetup.com/hdgturkey/</a>
<b>HMS Codelabs:</b>	<a href="https://developer.huawei.com/consumer/en/codelabsPortal/index">https://developer.huawei.com/consumer/en/codelabsPortal/index</a>
<b>Developer Forum:</b>	<a href="https://forums.developer.huawei.com/forumPortal/en/home">https://forums.developer.huawei.com/forumPortal/en/home</a>
<b>Youtube HDG Turkey:</b>	<a href="https://www.youtube.com/c/HuaweiDeveloperGroupsTurkey">https://www.youtube.com/c/HuaweiDeveloperGroupsTurkey</a>



# Introductory

# **LET'S DO IT**

- **Create a new project**
- **Open a existing project**
- **Download a project from Github**
- **List previously opened projects**

# TO-DO

**Please install JDK, Android Studio IDE and create an emulator before next class.**

- Android Studio IDE:** <https://developer.android.com/studio>
- AVD Manager:** <https://developer.android.com/studio/run/emulator>
- Youtube Install Guide:** <https://www.youtube.com/watch?v=li5-HqsCM1w>  
[https://www.youtube.com/watch?v=0zx\\_eFyHRU0](https://www.youtube.com/watch?v=0zx_eFyHRU0)



Berk Ozyurt  
berk.ozyurt1@huawei.com

Mehmet Yozgatli  
mehmet.yozgatli1@huawei.com

Cengiz Toru  
cengiz.toru@huawei.com

## LET'S TALK CONTACT INFORMATION

Telegram Channel  
will be created

Official Website  
<https://developer.huawei.com>