



# Откуда и куда мы идём

поколения мобильной связи

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# О докладчике

2005-2010

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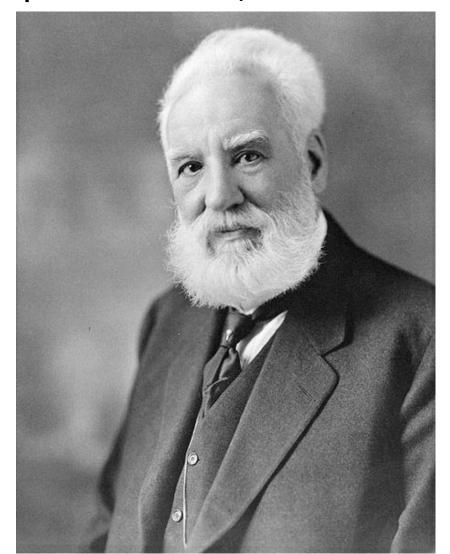
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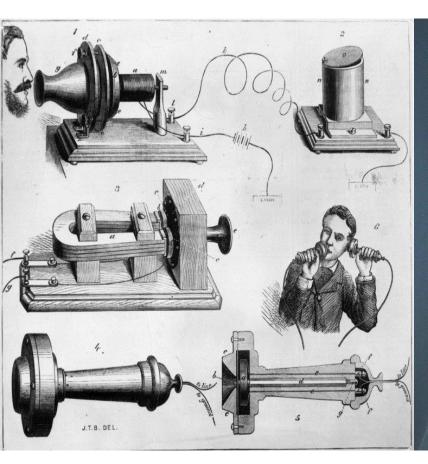
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## Алекса́ндр Гре́йам Белл (Alexander Graham Bell)



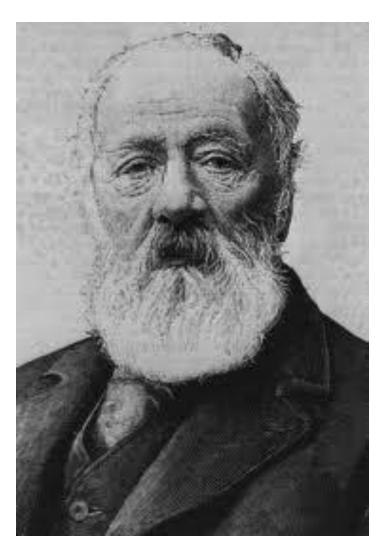
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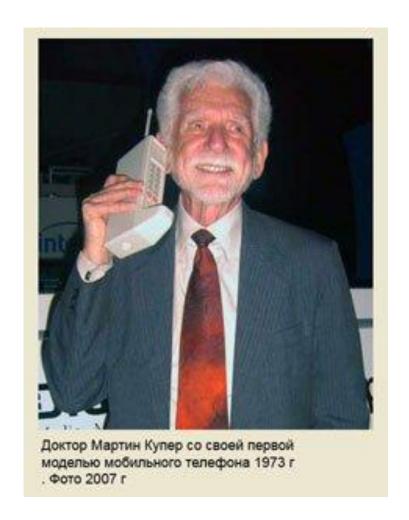


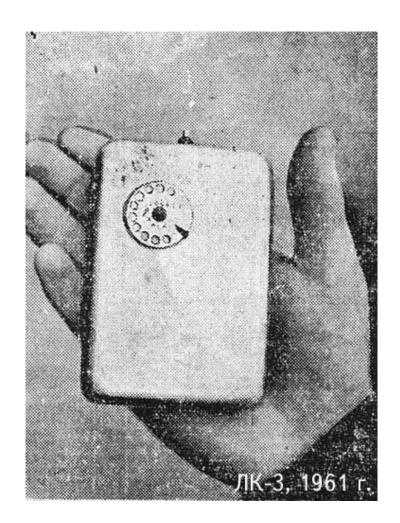


## Антонио Меуччи

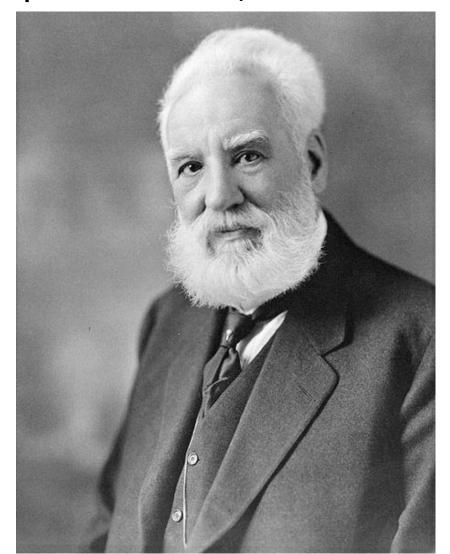


## К слову...

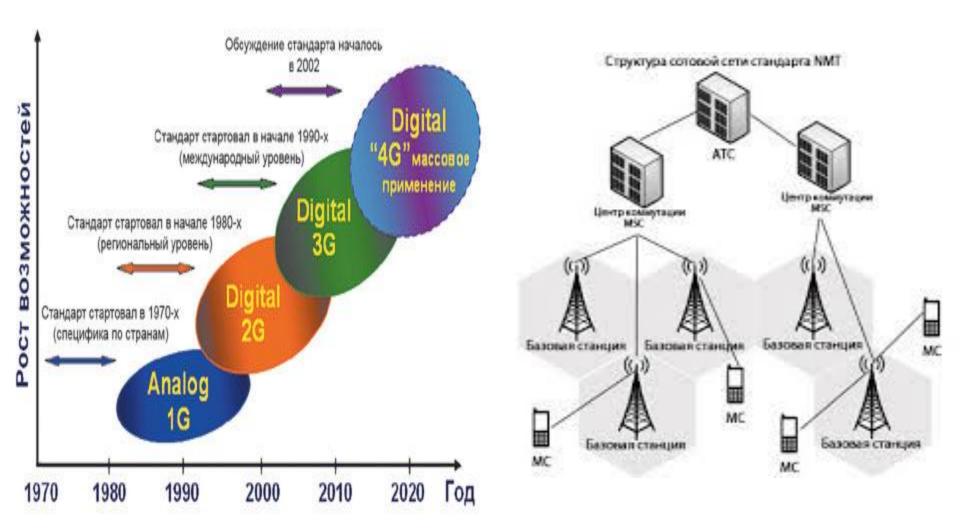




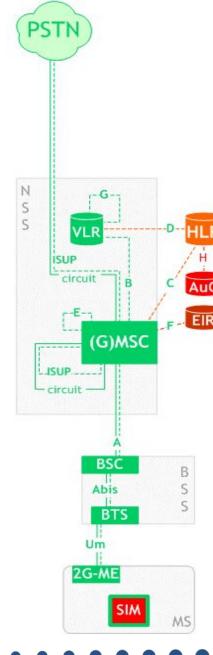
## Алекса́ндр Гре́йам Белл (Alexander Graham Bell)



**G** 



## **GSM**



AuC Authentication Centre Base Station Controller BSC BSS Base Station Subsystem BTS Base Transceiver Station EIR Equipment Identity Register GMSC Gateway MSC HLR Home Location Register ISDN User Part (SS7) **ISUP** ME Mobile Equipment MS. Mobile Station MSC Mobile service Switching Centre NSS Network Sub-System Public Switched Telephone Network **PSTN** SIM Subscriber Identity Module 557 Signaling System no. 7 Time Division Multiplexing TDM

Visitor Location Register

VLR

## GSM Phase 1

#### New Features:

- SMS Point-to-Point
- SMS Cell Broadcast
- Fax G3 Support
- Call Forwarding
- · Call Barring

### GSM Phase 2

#### New Features:

- · ODB: Operator Determined Call Barring
- . Line Identification: CLIP/CLIR/COLP/COLR
- · Call Waiting / Hold
- MultiParty
- · CUG: Closed User Group
- · AoC: Advice of Charge
- USSD: Unstructured Supplementary Service Data

## GSM Phase2+ Rel-96

#### New Features:

- · VGCS: Voice Group Call Service
- VBS: Voice Broadcast Service
- · NITZ: Network Identity and Timezone
- eMLPP: Enhanced Multi-Level Precedence and Pre-emption
- CAMEL: Customized Applications for Mobile network Enhanced Logic
- · SOR: Support of Optimal Routeing
- ECT: Explicit Call Transfer
- SAT: SIM Application Toolkit
- GAD: Universal Geographical Area Description
- · HSCSD: High Speed Circuit Switched Data

### GSM Phase2+ Rel-97

#### New Features:

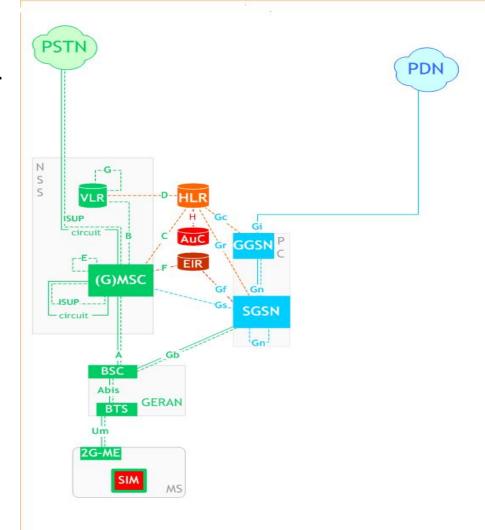
- GPRS: General Packet Radio Service
- . GCR: Group Call Register (not shown)
- · SIWF: Shared InterWorking Function (not shown)
- CCBS: Completion of Calls to Busy Subscriber
- CNAP: Calling Name Presentation
- TE-UE multiplexer protocol

## GSM Phase2+ Rel-98

#### New Features:

- EDGE: Enhanced Data Rates for Global Evolution
- · GERAN: GSM/EDGE Radio Access Network
- LCS: Location Services
- · FIGS: Fraud Information Gathering System
- IST: Immediate Service Termination
- · LI: Lawful Interception
- · SoLSA: Support of Localised Service Area
- · TFO: Tandem Free Operation
- · CTS: Cordless Telephony System
- · MNP: Mobile Number Portability
- CD: Call Deflection
- · UUS: User-to-User Signalling
- MSP: Multiple Subscriber Profile
- AMR: Adaptive Multi-Rate Speech Codec

## GSM+



SGSN Serving GPRS Support Node GGSN Gateway GPRS Support Node

GPRS General Packet Radio Service

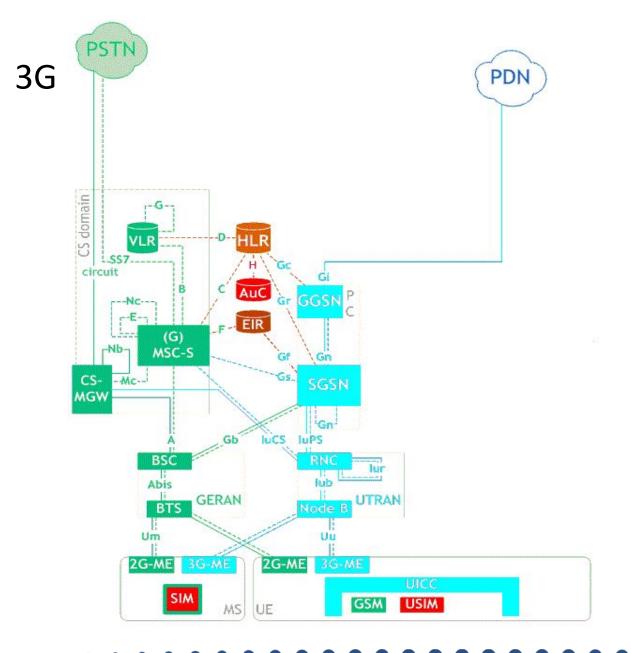
PC GPRS Packet Core
PDN Packet Data Network

#### New components (not shown)

GMLC Gateway Mobile Location Center SMLC Serving Mobile Location Center

LMU Location Measurement Unit

CBC Cell Broadcast Service



#### 3GPP Rel-3

#### New Features:

- UTRAN: UMTS Terrestrial Radio Access Network
- MMS: Multimedia Messaging Service (stages 1, 2)
- · DTM: Dual Transfer Mode
- · Follow-Me
- Multicall
- · Super Charger
- · Kasumi Algorithm Set

#### 3GPP Rel-5

#### New Features:

- IMS: IP Multimedia Subsystem
- HSDPA: High Speed Downlink Packet Access
- · GTT: Global Text Telephony
- · SCUDIF: Service Change and UDI Fallback

### New Features:

- · BICC: Bearer Independent CS Core network
- Out-of-Band Transcoder Control
- · PSS: Packet Switched Streaming service
- UTRA FDD Repeater
- · Milenage Algorithm Set

#### 3GPP Rel-6

#### New Features:

- GAA: Generic Authentication Architecture
- · GBA: Generic Bootstrapping Architecture
- · I-WLAN: Interworking with WLANs
- · GAN: Generic Access Network
- Network Sharing
- · MBMS: Multimedia Broadcast/Multicast Service
- · HSUPA: Enhanced Uplink
- · Presence Capability

3GPP Rel-4

- Speech Recognition
- · GUP: Generic User Profile
- · DRM: Digital Rights Management

#### 3GPP Rel-7

#### New Features:

- PCC: Policy Control and Charging architecture
- · MTSI: Multimedia Telephony Service for IMS
- CSICS: CS/IMS Combinational Services
- . UEA2 + UIA2: Confid. & Integrity Algorithms
- SDoUE: Selective Disabling of UE Capabilities
- IMS Emergency Sessions

- Voice Call Continuity between CS and IMS
- SS7 Security Gateway
- MRFC-MRFP Mp Interface (IMS)
- · Support of SMS over IP

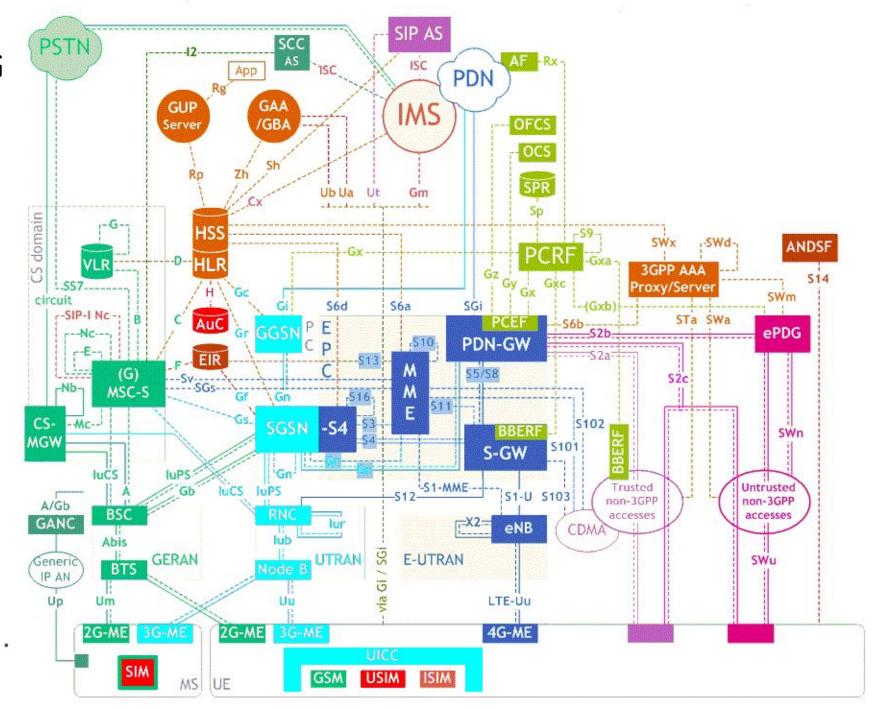
### 3GPP Rel-8

#### New Features:

- EPC: Evolved Packet Core architecture
- E-UTRAN: (aka LTE) Radio Access Network
- eGTP: evolved GPRS Tunnelling Protocol
- SRVCC: Single Radio Voice Call Continuity
- CSFB: CS Fallback

- ICS: IMS Centralized Services
- ISC: IMS Service Continuity
- · PNM: Personal Network Management
- MPS: Multimedia Priority Service

**4G** 



# Спасибо за внимание!

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