



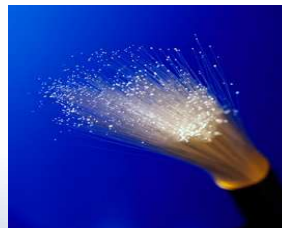
BlasCom IT

IT & TELECOM STRATEGY

Cellular Networks Optimization

- PMR; 2, 3, & 4G -

-
*By improvement of Quality of Service (QoS)
and Quality of Experience (QoE)
for a traffic subscribers fluidization,
without network equipments addition.*



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1. Our Offer

Our report

- The telecommunications industry is one of the most dynamic and volatile industries in the world, fueled by a combination of de-regulation and consolidation that has led to a complete overhaul of the competitive landscape.

In this highly competitive market where new technologies appear with a fast rhythm, **BlasCom IT** gives to the mobile operator all its expertise on this specific and technological domain by guaranteeing its whole objectivity and neutrality

Our expertise perimeter

- **BlasCom IT** intervenes at level of telecommunication infrastructure and associated services, for carriers (land and wireless networks), for manufacturers, but also for companies which has different locations, connected with their own network,
- Objective of our interventions is to facilitate the choice , implementation and optimization of technologies.

Our Offers

- Audit and Advice in Technologies
- **Design and Optimization of cellular and land networks**
- Strategy definition of telecommunication networks deployment
- Land and Wireless network Roll Out Management with engagement of completion date

2. The importance of a recurrent optimization of cellular networks

Engineering importance of cellular networks consist to conceive and realize mobile networks to answer to objectives of public and private network's QoS.

Whereas the total volume treated in 2009 was lower than 1 Exabyte,
it should reach 23 Exabytes in 2015 !

What represents 6,3 billion persons downloading each one, a numerical book per day.

If mobile networks are already unable to support the current traffic,
how will be the situation in 2015 ?

A constituent is then essential: THE OPTIMIZATION, at radio level, transmission level and switching level, for a rational optimization, to continue to ensure the predefined QoS, without adding equipments on this network.

**How is really the optimization of your network
and its follow-up?**

3. Expected benefit on the subscribers traffic

Optimization of cellular networks allows operators to deliver services with a larger capacity, and to support new applications which always requires more bandwidth, such as the traffic coming from the Smartphones, without increasing the Capex.

The data collected during the test drive (radio cover) allow to configure the network according to the QoS needs, defined according to criteria, well known by cellular operators such as:

- Urban zones, Campaigns, Roads, Buildings, Airports, etc.
- Call Success Rate, Error Rate of cells transfer (Handover), Quality of reception RF

***It is in this field of expertise, that BlasCom IT suggests
to accompany mobile operators***

We take care of the control and the short and medium-term optimization of cellular networks.

We follow and manage network capacities from traffic statements supplied by the monitoring team.

We determine necessary adjustments in terms of equipments, connections, and capacity.

From forecasts of subscribers evolution established by the marketing team,
and the knowledge of the current network capacities from the monitoring team,
we determine sizing hypotheses for the next network.

4. Our approach and methodology

Audit

- Frequencies Plan Mapping, and RF design
- Transmission Routes Configuration
- Global Cartography by zones: KPI, Layer analysis at different level, parameters, protocol analysis....
- Architecture from beginning to end

Recommandations Report

- Recommendations Report and solutions proposal classified by level of priority
- Solutions proposal at the parameters network level, but also at the process of the design phases level of the, and their tools

Optimization Solutions Implementation

- Cellular optimization by zones
- New sites qualification / New zones Integration
- Capex/Opex optimization
- Performance and Troubleshooting optimization
- Transmission optimization

Monitoring Know-how Transmission Training

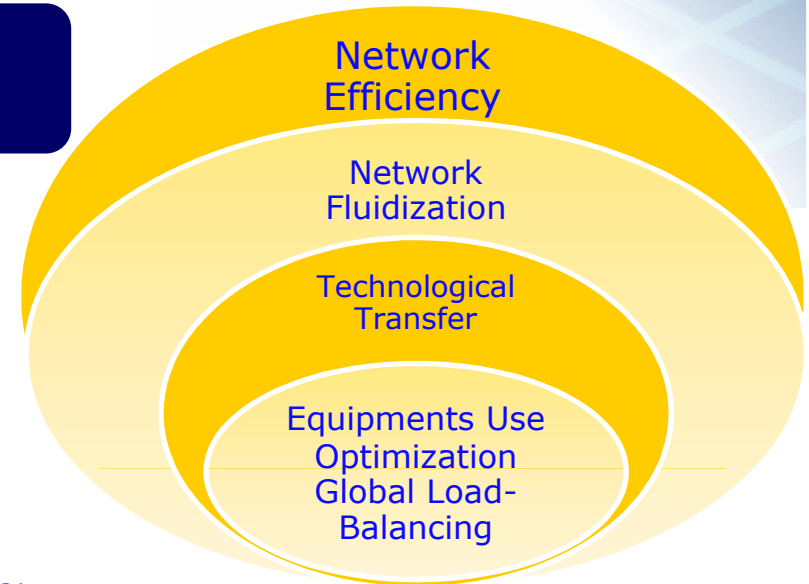
- Observation & Checking of the new load-balancing
- Know-how transmission and training
- QoS improvement

Retour
Sur
Investissement

5. The lever effects

Objective: To improve of 20% min. your main KPI* !

- By the modernization of the 'last miles' networks, and regulation of the exponential traffic management, coming from Smartphones
- By an analysis of the network in its globality, and its subscribers: the bottlenecks not occurring only at the BTS level, but also upper in the network on backhauls (centralization network of the traffic resulting from the BTS)
- By an analysis of all potential bottlenecks, as softwares, routers, and each node of transport
- By implementing independent indicators
- By reducing drive tests number
- By sharing and analyzing the best practices and experiences



Nota: * KPI: Key Performance Indicator

implemented for example on: TCH (traffic canal), SDCCH (signalization canal), HO (handover),

6. The customers, the technologies and tools

➤ The customers

Alcatel-Lucent 

Nokia Siemens
Networks 


HUAWEI



 SAGEM

ZTE中兴

ERICSSON   MOTOROLA

➤ The technologies

2G → GSM, CDMA, TDMA, EDGE (2,5G)

3G → UMTS, HSPDA (3,5G)

4G → LTE advanced

PMR → analog (2/3RP) and digital (Tetra, Tetrapole, DMR)

Wimax → IEEE 802.16 for the « last miles »

SDH/DWDM → at optical transmission level (Core Network)

➤ The tools

NetAct Planner, Parcell, Atoll, Actix, Tems, Nemo Tom, Planet, Gladiator, Viper, ...



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BlasCom IT is a company participating in the 'Global compact Local Network' charter of the United Nations, to make a commitment in favor of practices, among others, of development and distribution of environment-friendly technologies.

BlasCom IT has also been incorporated into the DCICC: Dynamic Coalition on Internet and Climate Change, depending on the International Telecommunication Union (ITU) and counting 41 companies and/or authorities at worldwide level.

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