"Mobile GSM/UMTS networks : a Universal Communication and Services solution"

This presentation will develop a thesis that Mobile GSM/UMTS networks offer a universal communication and services solution suitable both for developed as well as developing countries. This thesis is illustrated by two closely inter-related discussion threads

- First, we show how a GSM based PLMN infrastructure can smoothly and gradually evolve in order to offer new service capabilities for end-users to the operator's benefits. We show how evolution steps like GPRS and EDGE already allow the introduction of new services and educate customers for further advanced services based on the network evolution to UMTS (part of IMT-2000 family of standards). We also illustrate that with a proper choice of advanced technologies – like the Alcatel Evolium® mobile infrastructure solution – this evolution can be realized in a cost effective manner that preserves investments made in current GSM infrastructure.

- Second, we illustrate how GSM infrastructure allowed developing countries to improve the universal access to telecom infrastructure in a cost effective manner. This was helped largely due to the ubiquity of the GSM infrastructure (70% of the mobile installed base worldwide) that allowed economies of scale and provided developing countries with a competitive solution for universal access. It is also shown that GSM technology can be used as an effective wireless local loop technology without resorting to the full mobility feature if priority is given to improve accessibility in areas where any type of telecom infrastructure (fixed or mobile) is lacking. It must also be noted that a GSM network with restricted mobility can perfectly co-exist with a full-fledged GSM mobility service network simply by operating it at a different frequency band.

Developed economies operators need solutions allowing them to introduce new services – and derive new revenues - at the best cost and preserve the existing investments made in current networks. Developing economies need before anything cost effective solutions to improve access to the network and offer data services (digital bridge) as well as the basic voice telephony service. It is our belief, and we bring concrete elements of proof with this presentation, that GSM technology and its evolution towards UMTS IMT-2000 is the universal technology suitable both for developed and developing economies.