

MOTIVATION FOR NEW SI: MACHINE TYPE COMMUNICATION FOR UMTS

INTRODUCTION



- › In the networked society, all things that benefit from being connected will be connected.
- › Machine type communication (MTC) is expected to be a large growth area, with the potential for billions of connected devices.
- › With a massive installed base and large coverage footprint of WCDMA networks around the globe, WCDMA is capable of providing connectivity for a substantial part of these devices.

EXTENDING WCDMA TO COVER MORE MTC USE CASES



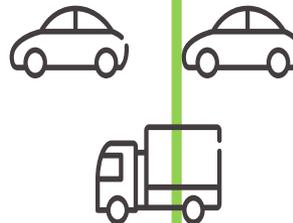
Meters and Sensors

- › Sensor, meters, connected devices and things
- › Small, simple, low-cost
- › Low energy consumption
- › Long-range coverage
- › Massive numbers



Intelligent Transport Systems

- › Connecting vehicles, transport infrastructure, and transport management
- › Incl. safety-related services
- › Low delay
- › High mobility



Critical Communication

- › Distributed embedded control & cyber-physical systems
- › High reliability and availability
- › Ultra-low delay
- › Autonomous operation



Rel-13

WCDMA Rel-12

Rel-13

WCDMA POSITION



- › WCDMA has and will have extremely competitive footprint to serve widespread deployment of MTC devices.
- › WCDMA capable MTC devices already common, and will become even more common.
- › WCDMA well positioned alongside GSM and LTE to carry significant overall share of MTC traffic
 - In some markets LTE is not widely available
 - In some markets WCDMA can act as replacement for GSM MTC, freeing up GSM spectrum for refarming to WCDMA/LTE
- › Strive for improvements to WCDMA to make it an even better proposition for MTC.

OBJECTIVES

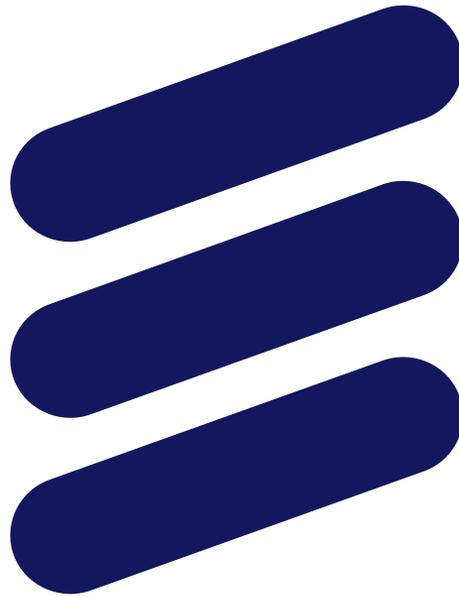


- › The objective of this study item is to identify potential problems and system bottlenecks and also technical solutions adapting machine type communication over HSPA based transport.
- › Coexistence with existing HSPA traffic is essential
 - No dedicated MTC carriers assumed
- › Evolution rather than revolution
 - Avoid impact on UE and network hardware

MAIN AREAS TO STUDY



- › Device power saving enhancements
 - For example extended DTX/DRX cycles
- › Optimizations to support massive number of devices
- › Optimization of small packet transmission
 - For example control signalling overhead reduction
- › Optimization of delay tolerant transmissions
- › Mechanisms to enhance coverage for low data transmissions
 - For example time domain repetition of physical channels or signals



ERICSSON