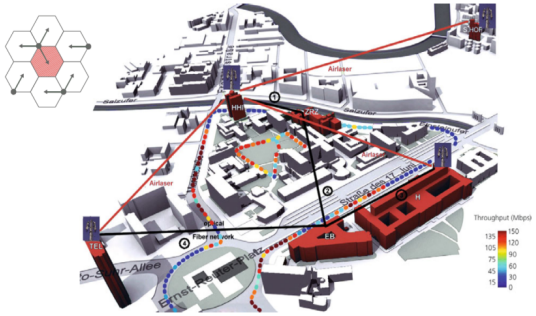
Berlin LTE-Advanced Testbed

Multi-Layer Multi-Cell Field Trial Environment

- Easy access to buildings, rooftops and antenna sites
- Typical urban heterogeneous radio network environment
- Radio overlays: 2G, 3G, 4G, WLAN
- Hierarchical cell deployments: macro, pico, femto, relay
- Fast inter-site optical fiber connections
- Ultrafast broadband connection to DFN
- IP based seamless handover via EPC

Field Trials in Real World Radio Environments

- Outdoor drive tests with measurement van
- Outdoor-to-indoor coverage
- Indoor measurement campaigns
- Wireless radio link performance measurements
- Performance testing under multi-cell interference limitation

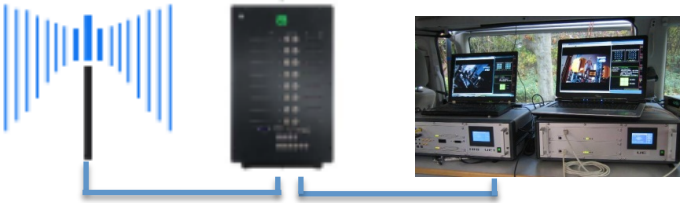


Berlin LTE-Advanced Testbed

Wireless Communication and Networks

Field Performance & Channel Measurements

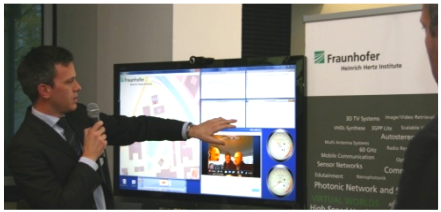
- Coherent multi-site measurements for LTE-Advanced in 2.6 GHz and 800 MHz – digital dividend
- Parameter extraction: channel coefficients, range, coverage, capacity, IP-throughput, interference levels, outdoor-to-indoor penetration loss
- Channel parameter conversion to support Matlab-based link & system level simulations and real-time channel emulators, e.g. Elektrobit F8
- Real world channel replay with channel emulator for device tests and performance benchmarking



Base Station | *EB Propsim F8 Real-Time Radio Channel Emulator* | *Mobile Terminals*

Public and Customer Specific Wireless Demonstrations

- PoC and real-time demonstration of wireless technologies
- Playground for multi-vendor, multi-operator testing of next generation wireless technologies
- Showcasing of specific use cases and deployment scenarios: e.g. macro-pico, macro-femto, multi-femto, relay enhanced macro cells, relay enhanced indoor coverage
- Drive test with advanced application service provisioning: Seamless IP stream HO using EPC and multi-RAT infrastructure available in the Berlin LTE-Advanced Testbed



Bitkom Seminar, Nov. 2010 Berlin – Live LTE-A Test Drive