Small Cells

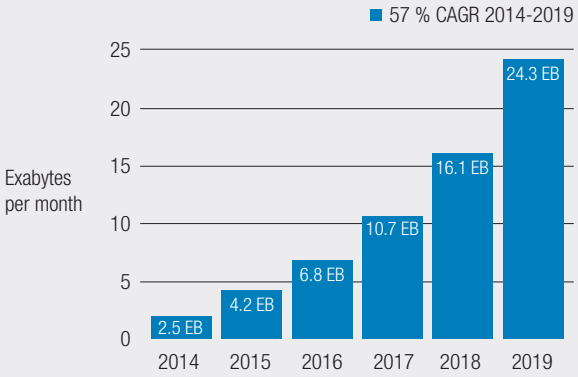
MOBILE COMMUNICATION

Solutions for
Future Network Demands

KATHREIN

A revolution is currently under way in the field of mobile communications, the expectations of the subscribers are to have unlimited access to mobile services and social networks at every time and place. Prognoses show an enormous growth of mobile data traffic within the next few years. According to current estimations, operators will be facing an increase of global mobile data traffic by 2019 by a factor of 10 compared to 2014.

Smartphones Lead Traffic Growth

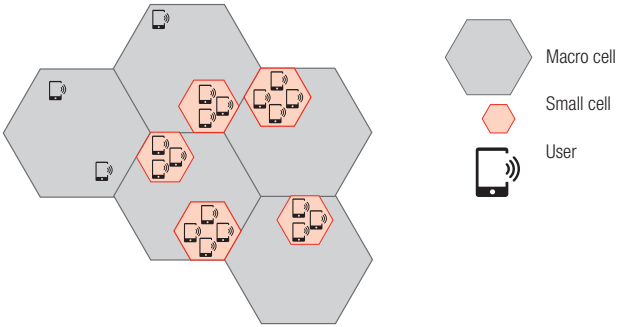


Source "www.cisco.com" Courtesy of Cisco Systems, Inc.; unauthorised use not permitted;
Cisco: Global Mobile Data Traffic Forecast Update 2014-2019 White Paper

To meet these demands, operators and system suppliers are starting to investigate in deploying new network solutions resulting in small cell roll-outs. The concept of small cells is to provide capacity in high data traffic areas by adding specific low-power base station solutions. Compared to macro cells, which cover cell sizes of 1 to 20 km, small cells are aimed at providing coverage from 50 up to only 300 m.

FEATURES

- Handling the data traffic in mobile networks (tablet PCs, smartphones ...)
- Cover areas with a high amount of data traffic
- Optimise and add more cells to your network with a low interference level
- Add capacity to your network where it's really needed
- Use all advantages of the MIMO technology



Kathrein supports you with:

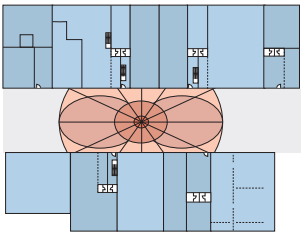
- Different antennas for different scenarios
- Easy and versatile mounting
- Low visual impact
- Place capacity where it is needed

Kathrein also provides a Micro C-RAN solution for indoor capacity. For more information, please visit www.kathrein.de/indoor.

Kathrein offers different antenna solutions in order to support their customers in their effort to deploy small cell outdoor solutions for 3G and LTE. Not only do these antennas meet reliable electrical parameters, the unobtrusive design also minimises the visual impact especially in sensitive urban areas. Small cells are well-suited for providing dedicated capacity to high-use urban hotspots, such as hotel lobbies, restaurants, malls, train stations, airports and city streets.

1, 2, or 4-Port Antennas

- Ultra-broadband design with different frequency combinations (single, dual-band)
- Different pattern version, e.g. cross-polarised omni, bi-directional, tri-sector
- MIMO capability
- 2 to 9.5 dBi gain
- Very small dimensions
- Smart innovations, e.g. antenna with 2 independently adjustable radiator elements



1-Port Antenna bi-directional

2-Port Antenna cross-polarised omni

2-Port Antenna cross-polarised

4-Port Antenna with adjustable radiator elements

4, 8, or 12-Port Antennas

- Ultra-broadband design: 698-960/1695-2690 MHz
- Available with omni, two, or tri-sector pattern
- With integrated GPS antenna
- MIMO capability
- 6 to 13 dBi gain
- Low visual impact

12-Port Antenna

Kathrein Street Connect Antenna

- Invisible capacity enhancement solution
- Appearance of manhole cover merges with existing infrastructure
- Ultra-broadband design: 1695-2690 MHz
- Proven MIMO performance

Kathrein Street Connect Antenna

4.3-10 Connector

Kathrein provides antennas and antenna line products with a new connector series. This 4.3-10 connector is an advanced development of the 7-16 interface and represents the new generation of mobile communication interfaces.

The advantages of this new connector are:

- Reduced dimensions on the bottom plate for more installation space
- Improved PIM-stability and performance
- Eased installation, lower tightening torque
- The universal 4.3-10 jack can be used with 3 different connector types (screw type, push pull type and hand screw type).

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KATHREIN-Werke KG
Anton-Kathrein-Straße 1-3
83022 Rosenheim, Germany
Phone +49 8031 184-0
Fax +49 8031 184-820
www.kathrein.com | mobilcom@kathrein.de