

# Small Cells

Solutions for  
Future Network Demands



MOBILE  
COMMUNICATION

**KATHREIN**

## Small Cells | Why Small Cells?

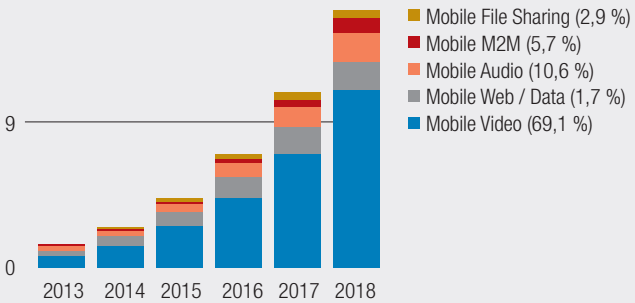
A revolution is currently under way in the field of mobile communications; the expectations of the subscribers are to have unlimited access to mobile services and social networks at every time and place. Within the next few years, prognoses show an enormous growth of mobile data traffic. According to current estimations, by 2018 operators will be facing an increase of global mobile data traffic by a factor of 11 compared to 2013.

### Smartphones Lead Traffic Growth

Exabytes per month

61 % CAGR 2013-2018

18

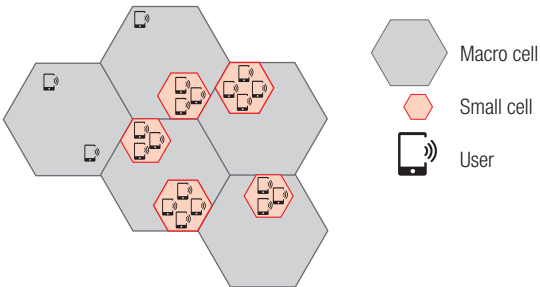


Source "www.cisco.com" Courtesy of Cisco Systems, Inc.;  
Unauthorised use not permitted; Cisco VNI Mobile Forecast, 2013

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

**VPol Omni Antennas**

- Different frequency versions
- Single- or dual-band
- Predestinated for open space coverage, e.g. on town squares
- Indoor and outdoor use
- 2 dBi gain



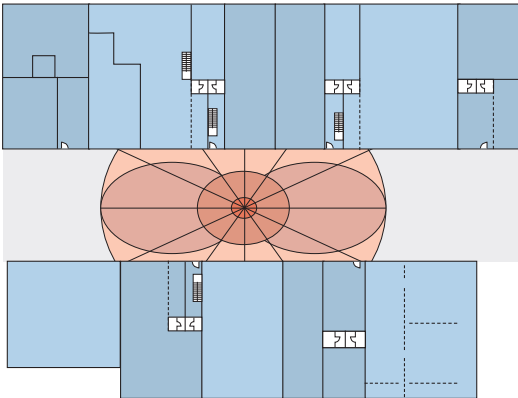
**VPol Omni**

**VPol Bi-directional Antenna**

- Coverage in two directions
- Predestinated for elongated areas, e.g. pedestrian zones
- Indoor and outdoor use
- 5 dBi gain



**VPol Bi-directional**



VPol Bi-directional antenna used in a pedestrian zone

Kathrein as the world's largest antenna manufacturer 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.

## 2-Port Omni Antenna

- Cross-polarised omni design
- Ultra-broadband
- MIMO capable
- Very small dimensions
- 5 dBi gain
- Also available as tri-sector solution

## 2-Port Antennas

- Ultra-broadband
- Single- or dual-band
- MIMO capable
- Very small dimensions
- 8/9 or 9.5 dBi gain

## 4-Port High-Band Antenna

- Either for indoor or street level micro cell coverage
- 2 independent radiator elements can be adjusted separately
- Installation: vertical or horizontal possible



**2-Port XPol Omni**



**2-Port VPol**



**4-Port High-Band**

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