Concept **Solutions** for Indoor Coverage in **Buildings with cellular (2G/3G) needs**

End users are requesting continuity of service for their usual applications, wherever they are. This includes office buildings that require up-to-date infrastructures able to host business applications where state-of-the-art technology is an important feature in attracting or retaining tenants. For landlords, investment is a key parameter. Using Wireless Indoor Solutions (WINS) is seen as a way of reducing investments for 2G/3G indoor services while remaining future-proof: There is no need to duplicate cabling or change existing ethernet cabling in order to deploy Wimax. There exist also cost savings in negotiating bundled services with operators. For this segment 2G/3G and Wimax ready solutions are particularly appropriate, with Wifi coverage as an option. Buildings require full turnkey solutions, from design and deployment to ongoing management – Radio Frequency Systems acts worldwide as one-stop-shop for cables, repeaters & supporting services and offers 2G/3G/Wimax ready and Wifi options.

### Solution Applications Solution type

<table>
<thead>
<tr>
<th>Solution</th>
<th>Applications</th>
<th>Off-air repeater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Buildings &lt; 5000 m²</td>
<td>2G, 3G</td>
<td>Passive distribution network</td>
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<td></td>
<td>Capability to combine Wifi</td>
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<tr>
<td>Buildings &gt; 5000 m²</td>
<td>2G, 3G</td>
<td>Off-air repeater</td>
</tr>
<tr>
<td>Campus</td>
<td>Capability to combine Wifi</td>
<td>Hybrid solutions, In-line BDA, Fiber-fed repeaters</td>
</tr>
</tbody>
</table>

### Buildings: passive solution - cables & antennas

**ClearFill® Line: Passive solution cables and antennas**

- Feeder cable for distributing antennas
- Radiating cable for managed contour
- Splitters and couplers for branching signals

**Features/Benefits**

- Coverage where you need
- Cost based on ROI
- Network quality of service
- Based on user/application need
- Managed contour
- Future proof
- Tested upto 6 GHz
- 3G/Wimax ready
- Upgradeable to Wifi
- Scalable – operators / capacity
- Efficient
- Low or No maintenance
- Low cost per m² (0.7 to 2 Euros / m²)
- Installation in regular false ceiling
- Nice antennas

**Typical environments**

- Small buildings, 5000 m²

### Solutions for Indoor Coverage in Buildings with cellular (2G/3G) needs

- CDMA800/CELL800
- GSM900/EGSM
- GSM1800
- PCS1900
- W-CDMA/UMTS

**The Clear Choice™**

For further information please visit us on the internet at http://www.rfsworld.com
RADIO FREQUENCY SYSTEMS

Buildings: cables extended with BDAs (bi-directional amplifiers)

ClearFill®Boost:
• Valid non branched topology
• Trunk amplifier application
• Radiating or feeder cable
• Extend coverage for optimum cost

Features / Benefits
• Extend BTS or off-air repeater
• Remote & local management
  Alarms, Gain setting

Typical environments
• Mid size buildings

Buildings: fiber-fed repeaters (hybrid solution)

Buildings 5000 to 20000 m²
ClearFill®Space1: Fiber-fed repeaters (hybrid solution)

Features / Benefits
BEST COST FOR COVERAGE
• Connection to outdoor BTS/repeater
• Plug and play remote units
• WiFi injection at remote unit level
• Extend system with cables/antennas
• 5 km between master & remote unit
• Optical link

Services: GSM900, GSM1800, 3G
1 Service for 20.000m²
2 Services for 10.000m²
3 Services for 5.000m²

Typical environments
• Campus, mid and large size buildings

Buildings > 5000 m²
ClearFill®Space2: Fiber-fed repeaters (hybrid solution)

Features / Benefits
• 1 rack frame
• Manage up to 6 optic fibers
• Up to 6 remote units
• 1 remote management
• 1 power supply
• Rack usually placed in head station

Typical environments
• Large buildings

OPTICAL FIBER SYSTEMS

Up to 6 fiber-fed remote units per master unit/rack:
Connected to rack frame up to 20 km optical link
Options: single/dual/triple band
Can drive cables & antennas (passive solution)
Compact size
Local or power from the cable (dc)
Remotely manageable

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