MOBILE WORLD LIVE

HUAWEI

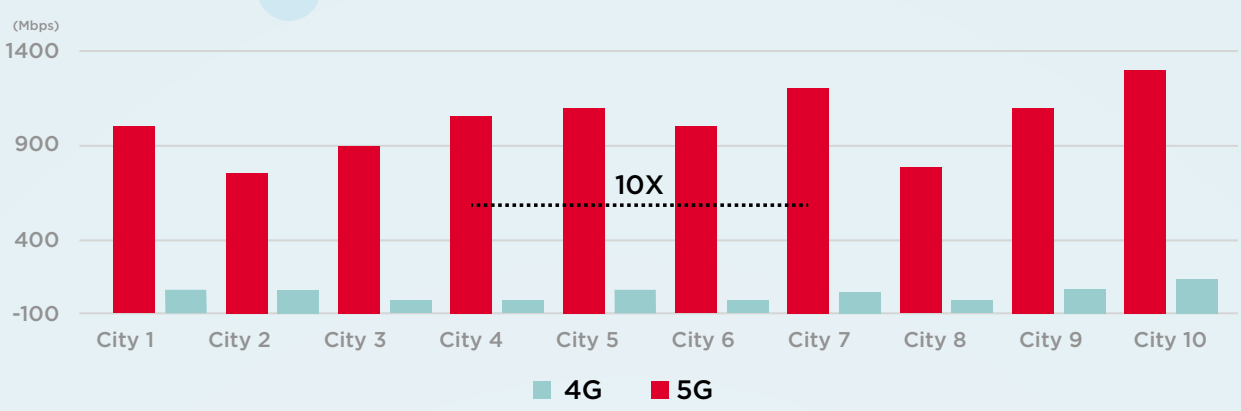
# MetaAAU

## Breakthrough in M-MIMO Coverage & Energy Efficiency

**5G development is accelerating and operators are realising the cross-generation experience of large bandwidth and M-MIMO**

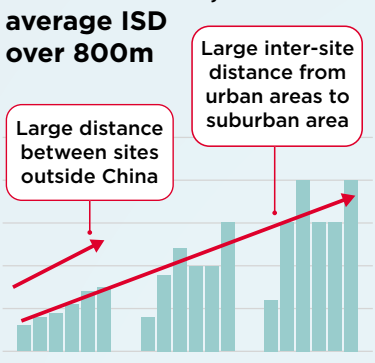
### Wide deployment of IF and large bandwidth, delivering 10 times the intergenerational experience

**~85%** Released new 5G spectrum is mid-band




## Three Trends in 5G Deployment

**5G networks cover more scenarios, average ISD over 800m**




**New services require high-quality UL and DL experience especially in cell edge and indoor**

**6X**
HD video Double speed playback
1080P HDR Buffer Rate Requirements

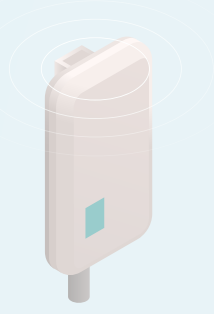
**20x–30x**
Cloud games, live broadcast
Uplink Rate Requirement

**Green network is industry trend**

**78** countries

**32** carriers

## Better performance and lower energy consumption drives continuous innovation of M-MIMO



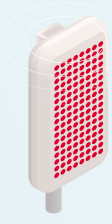
- Coverage
- Experience
- Green

**M-MIMO requires both coverage and energy saving**

| | Transmit power | Equipment Power Consumption | Downlink Coverage | Uplink Coverage |
|---|---|---|---|---|
| Tradition MM | ↑ | ↑ | ↑ | → |
| New track MM | → | ↓ | ↑ | ↑ |

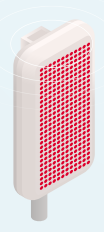
## MetaAAU: Breakthrough in coverage & energy efficiency

**Traditional AAU:**



**192** antenna array
64T64R

**MetaAAU:**



**384** arrays
64T64R

**+3dB** Coverage

**+30%** Experience

**-30%** Energy consumption

## ELAA + AHR Turbo: Boosting Coverage & Energy Efficiency

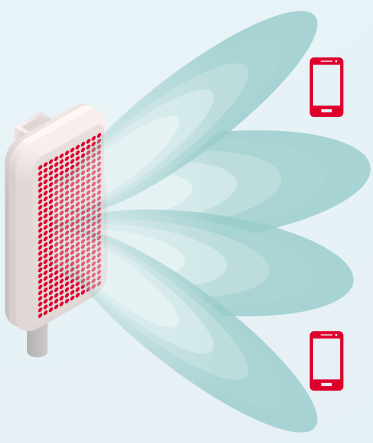
**ELAA Extreme-Large Antenna Array**

**Larger array for better coverage**

**10x log10(N) dB**
**= Array gain**

N: number of oscillators in the antenna array

- **Compact wave filter**
  Transmission loss reduced by 60%
- **Ultra-light integrated array**
  10 to 20% weight loss
- **SDIF**



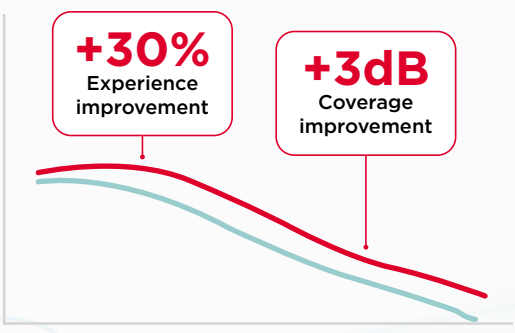
**AHR Turbo Adaptive High-Resolution Beamforming**

- **Precise**
  Precise narrow beam
- **Dynamic**
  Adaptive beam optimization
- **Targeted**
  High resolution beam-specific noise reduction

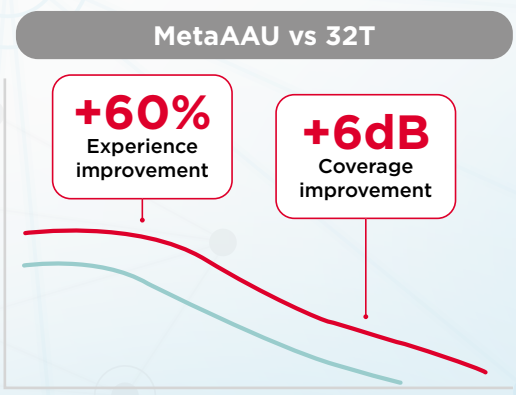
## MetaAAU: Improving Coverage & User Experience

**5G commercial site test field**

**MetaAAU vs. 64T**




**MetaAAU vs 32T**

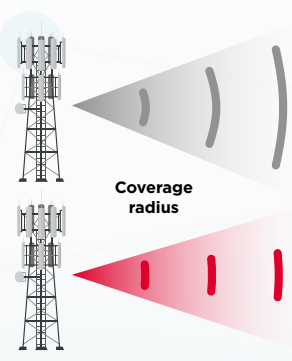



## MetaAAU Maximizes Energy Efficiency at Same Coverage

**Lower power, same coverage**

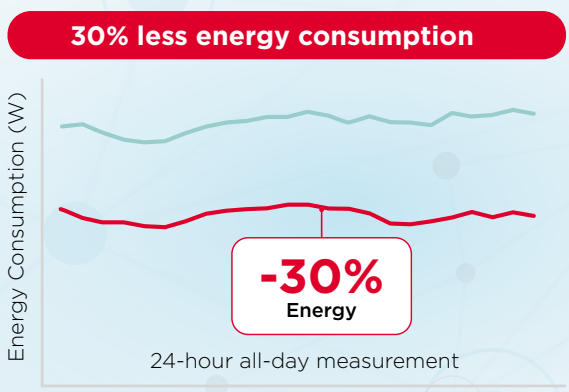
**Traditional AAU**
**320W**

**MetaAAU**
**160W***




* 320 W hardware capability, 160 W configuration

**30% less energy consumption**

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