



## The Power of MulteFire



## LTE-like performance with Wi-Fi-like deployment simplicity



LTE-based technology for small cells operating solely in unlicensed spectrum

Brings enhanced data and voice services to local area deployments

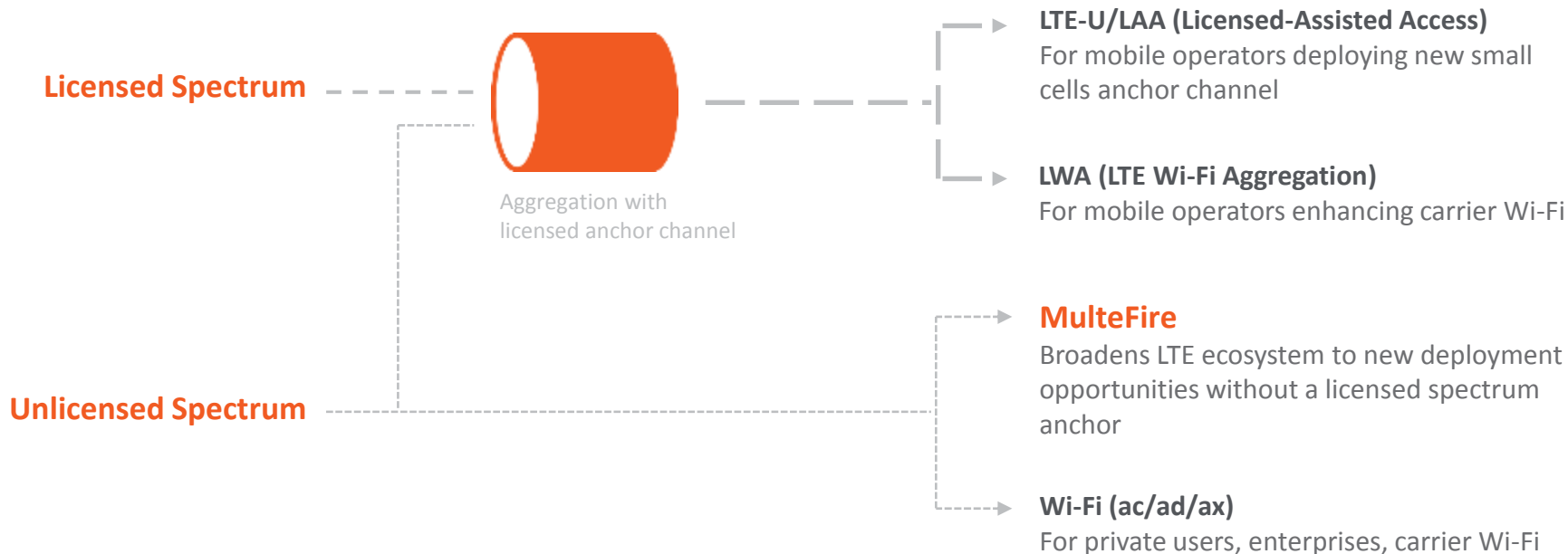
Suitable for any band that needs over-the-air contention for fair sharing

Broadens the LTE ecosystem to new and existing wireless providers



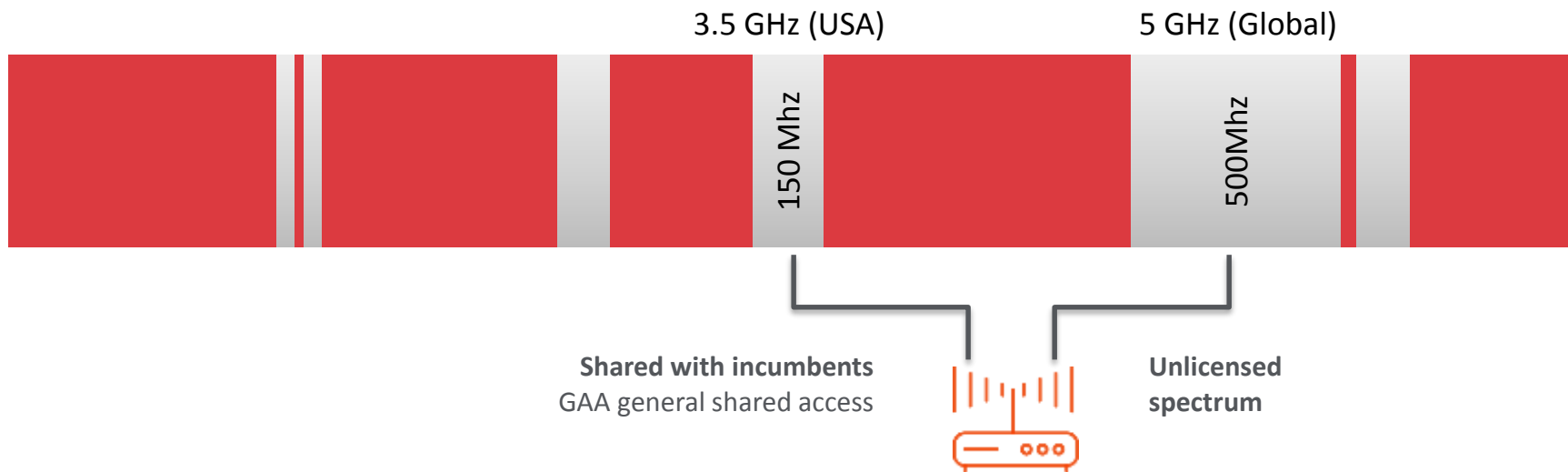
## Harmonious coexistence

MulteFire supports Listen Before Talk (LBT) for fair coexistence and global reach



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## MulteFire – for any spectrum that needs over-the-air contention



## Excellence in dense deployments

High capacity in dense deployments thanks to LTE's robustness

Simple, self-organizing small cell deployments



## Improved indoor and outdoor capacity

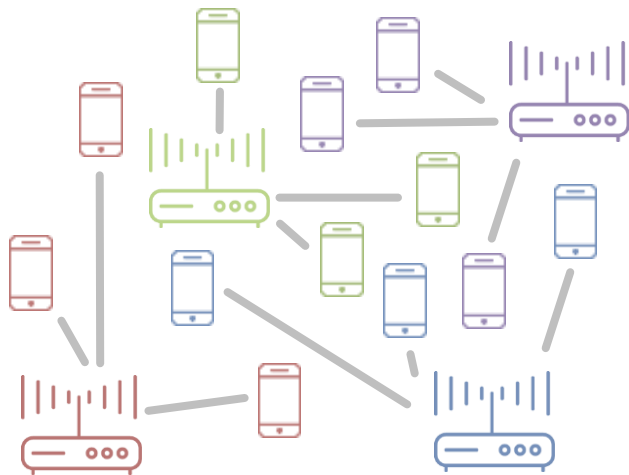


Opportunity to cover more area  
and devices with fewer nodes than  
Wi-Fi

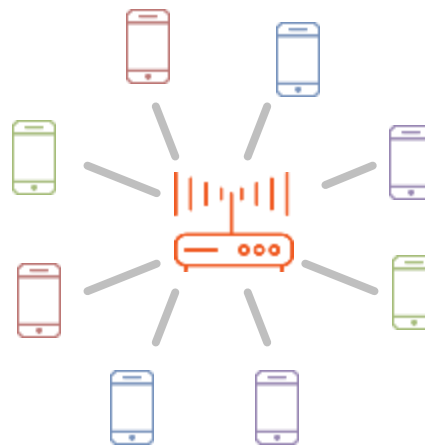
MulteFire's coverage and capacity  
will be similar to LAA's performance  
in unlicensed spectrum



## Enhanced offload for mobile networks with MulteFire



**Traditional mobile deployments**  
Separate spectrum bands and deployments may prohibit reaching all venues, enterprises and homes



**Neutral host deployments**  
Using common spectrum and common deployment provides neutral host services (Wi-Fi like)



## Benefits mobile operators



Act as a neutral host to serve multiple operators

Expand capacity and coverage in harder to reach areas – such as indoors

Deliver service continuity between MulteFire and LTE networks





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## Benefits new wireless providers

Enterprises, fixed and wireless ISPs,  
cable operators, venue operators


Installation and IT service providers

Public sector and public venues

Internet of Things verticals



## Benefits of the LTE ecosystem



Seamless mobility within deployments

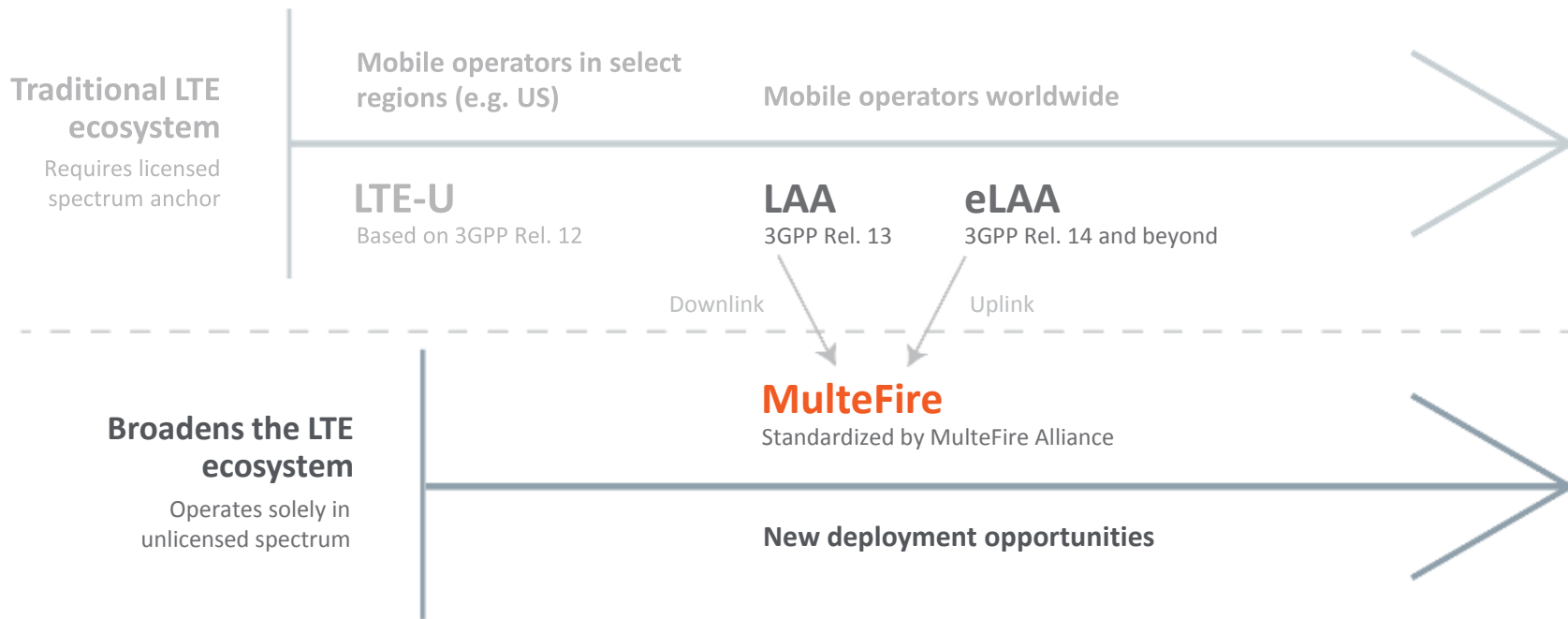
Leverage LTE's strong security, authentication and more

Support features such as VoLTE, LTE broadcast, interference management, advanced radio resource management and more



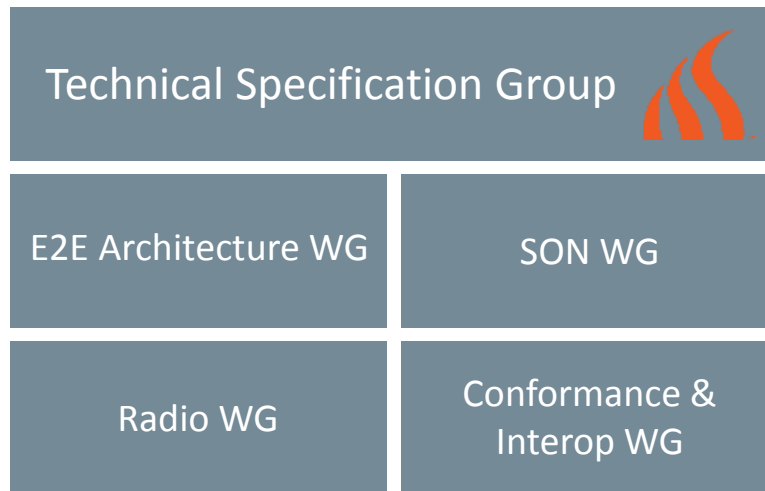
## MulteFire is based on 3GPP standards

Alliance's goal is to develop next-gen wireless technology that is widely adopted in global standards



## MulteFire Release 1.0

- Release 1.0 based on 3GPP standards
  - Release 13 for downlink (LAA)
  - Release 14 for uplink (eLAA)
- LTE-based radio link
- End-to-end architecture, including interworking for 'neutral hosts'
- Release 1.0 scheduled for publication in Q4
- MulteFire certification program to be developed



## MulteFire technology proof points

- Qualcomm has demonstrated the world's first MulteFire over-the-air connection using Listen-Before-Talk (LBT).
  - Test demonstrated that MulteFire, with full co-existence capability in operation at all times, can provide LTE-like performance while fairly co-existing with Wi-Fi on the same 5 GHz channel
- Mobile operator Saudi Telecom Company has completed a test of MulteFire with the following results:
  - Harmonious co-existence with Wi-Fi in the same frequency
  - 50 percent better range than Wi-Fi
  - Up to 2x better coverage than Wi-Fi
  - Neutral host capabilities
- Multiple member companies have demonstrated MulteFire's capabilities



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## MulteFire Alliance

- An independent, international member-driven consortium – 3GPP/ETSI style organization with IPR Policy and working procedures
- Goal is to develop technology that will be widely adopted in global standards
- Dedicated to building a global ecosystem in support of the common interests of members, developers and users in the application of LTE and next generation mobile cellular technology in configurations that use unlicensed radio spectrum
- Voluntary call for membership – join us!



[www.multefire.org](http://www.multefire.org)



## MulteFire Alliance members



## Summary: The Promise of MulteFire



LTE-like performance, Wi-Fi-like deployment simplicity

Harmonious co-existence

Broadens the LTE ecosystem to existing and new wireless providers

Delivers a neutral host to serve any user

