

NodeLine Base Station Antenna Family

**Even more connectivity and smooth
upgrade to active & passive 5G**

Integrating 5G in the current 4G network



The challenges of 4G & 5G co-existence

The ongoing 5G roll-out causes a number of challenges for most MNOs. As the 4G antenna infrastructure is still in use – how can MNOs find space for 5G antennas?

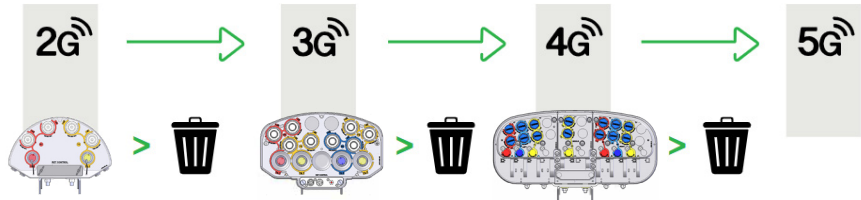
Identifying new antenna sites for 5G is both costly and time consuming, and hence the natural choice is often to co-locate 4G and 5G on the same site.

Adding a new antenna to an existing site can, however, prove cumbersome, as it may include both re-engineering of the antenna lay-out, as well as potentially involve difficult re-negotiations with landlords.

Thinking ahead and keeping the same antenna form factor for both 4G & 5G can be of great help when implementing 5G.

Making co-location easy & appealing

- Ready to facilitate 5G rollout - reserve space with Hybrid Kit or/and stack 5G passive or active mMIMO solutions
- Multiple options for antenna configuration (stacked, filtered, side-by-side...). We co-create to support your scenario, including antenna sharing when required
- Cylindrical options for both active and passive antennas available wherever aesthetics is of concern



Network evolution creates antenna waste

The evolution of mobile networks – 2G, 3G, 4G, 5G plus all the changes within each generation – drives constant upgrades to base station antennas.

Antennas are built to last, but in practice their active service is often only three years. Which means a huge amount of perfectly functioning equipment is thrown on the scrap heap.

Waste can also occur when BSA stock becomes obsolete due to new upgrade scenarios dictated by the evolution of the network.

The telecom industry is committed to reduce waste and carbon footprint

MNOs across the world are taking action:

- The industry is the fastest adopter of the United Nations' Race to Zero campaign, which commits to carbon neutrality by 2050.
- Many MNOs are moving faster, targeting 2040.
- 13 European GSMA members plan to cut their carbon footprint by 47% by 2030.

Which means the industry needs lower carbon footprint antenna solutions now.



GSMA Climate Action Taskforce members



NodeLine - Your gateway to 4G/5G co-existence

NodeLine - the world's first upgradeable antenna

The NodeLine allows you to seamlessly integrate a 5G antenna on top of your 4G antenna without any visual compromise - creating the perfect bridge between 4G and 5G.

NodeLine antennas offer a number of key benefits :

- Integrate either your 5G passive or active antennas
- Save space on towers
- Independant solutions - to keep your 5G choice open
- Easy to install
- Aesthetically pleasing aligned form factors of 4G and 5G antennas

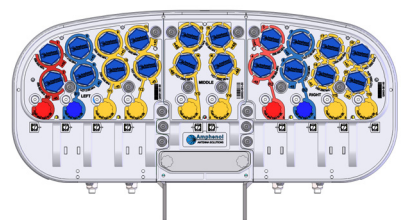
Available in cylindrical concealed form factor

Our TRIO NodeLine range also offers easy upgrade to 5G massive MIMO, when aesthetic solution is required.

Different 5G upgrade options to fit your need

Our stackable and flexible Hybrid Kit allows for integration with several 5G options :

- Host a massive MIMO 5G antenna
- Host a passive 5G 8T8R antenna
- Host a passive 5G 8T8R antenna including docking station for Nokia radio
- Designed for future Open RAN 5G upgrade

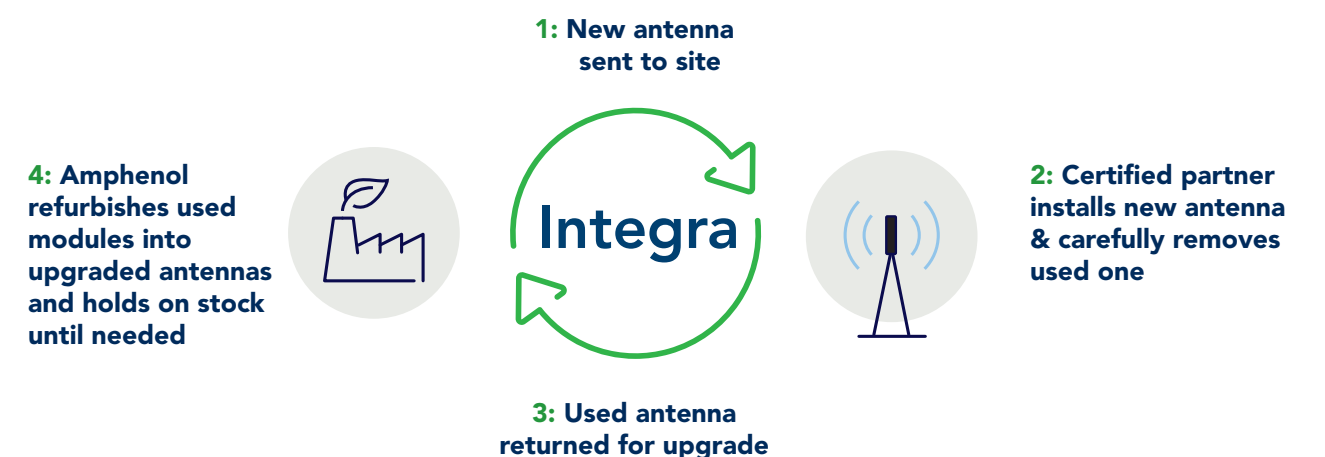


How to install a massive MIMO 5G antenna on the top of NodeLine ?

See our installation video by clicking on the icon opposite

Cut your carbon footprint by 50%

To address the issue of waste, carbon footprint and network evolution, we present Integra, the world's first antenna upgrade programme:

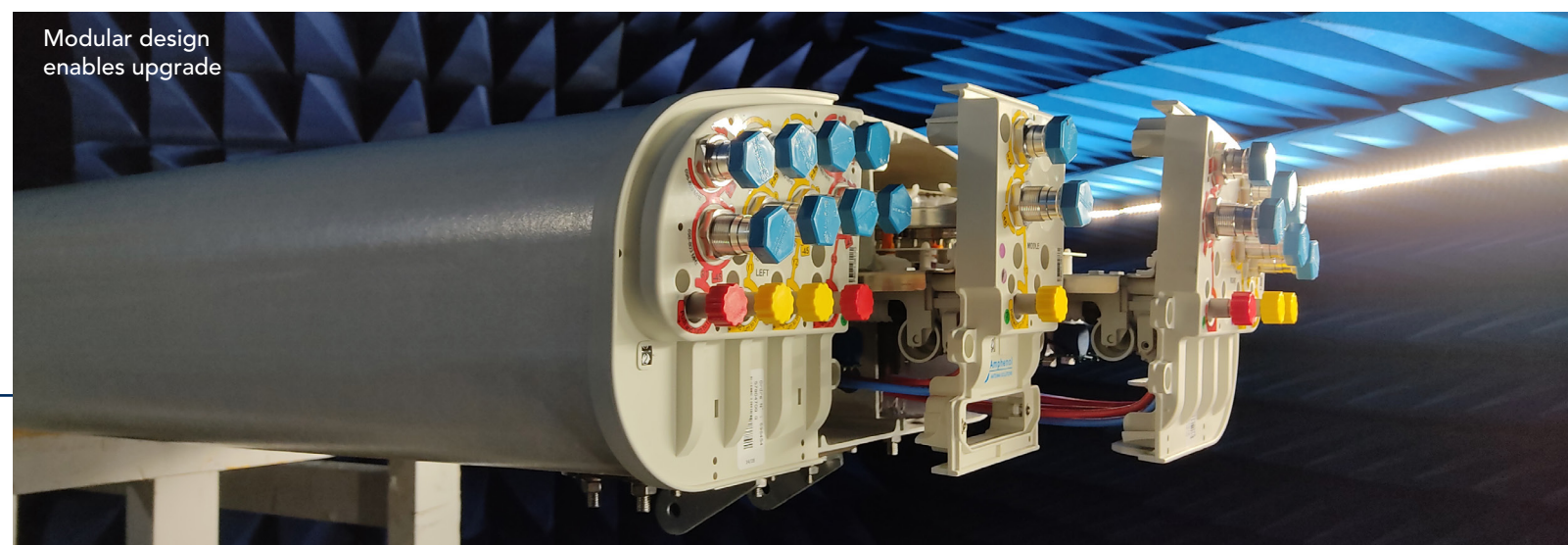


- Latest technology via NodeLine antenna family
- 50% of the carbon footprint
- Upgrade installed & stock antennas
- Two-year warranty
- Fully tested and certified
- Same price as standard antenna

Integra in your network?

The time of waste is coming to an end. Integra enables you to keep up to date while reducing your burden on the planet. Explore how it might fit into your network by contacting your local Amphenol Antenna Solutions office at amphenol-antennas.com/contact

Modular design enables upgrade

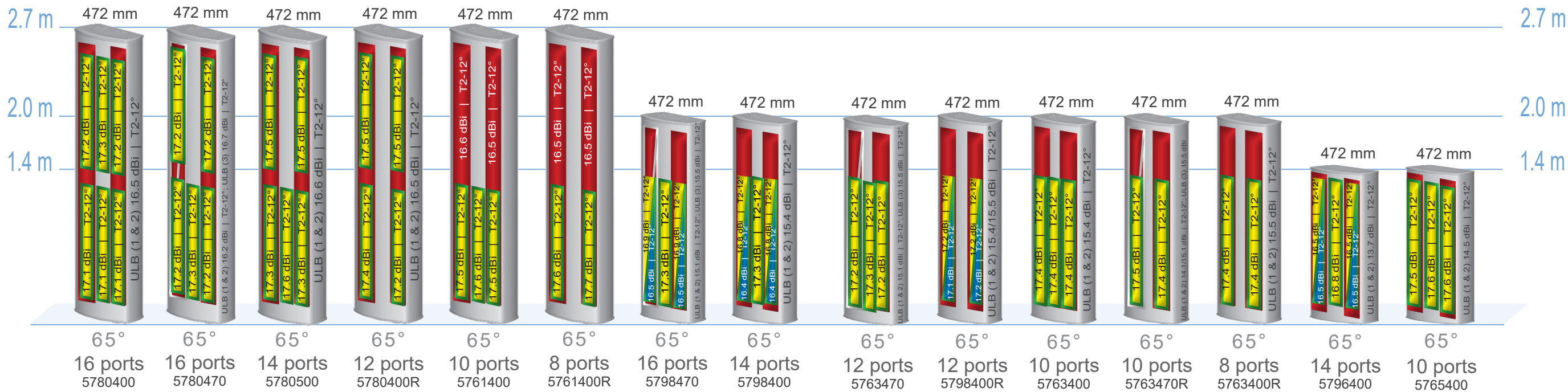


NodeLine Portfolio



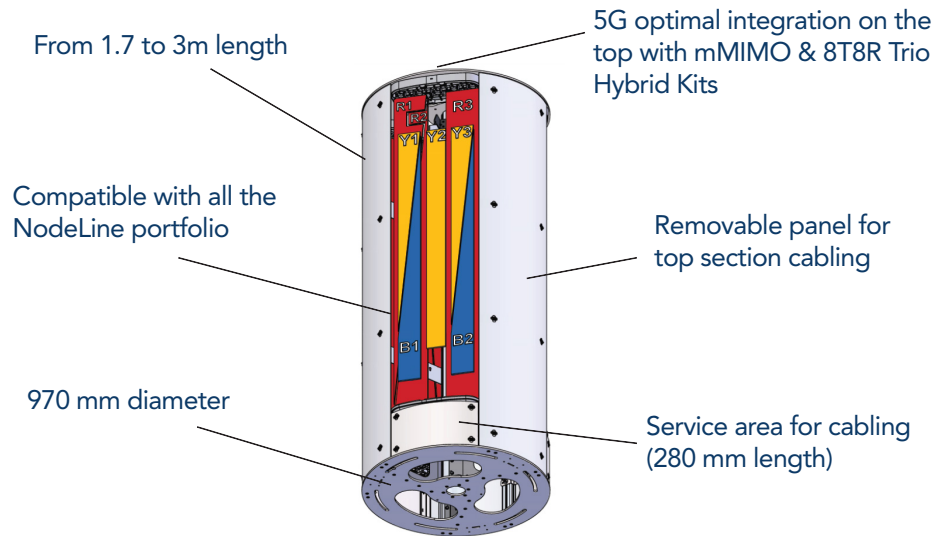
Best in class 4G performance

- 472mm platform, shaped radome for best-in-class wind load.
- Wide dynamic independent tilt range in all bands, includes MET override.
- Wide NodeLine range - Through customer co-creation we continuously add more models, supporting 4 columns of arrays, filtering, etc.
- 1400 ready - innovative, independent & flexibility guaranteed.



Trio NodeLine

All NodeLine antennas can be deployed inside a low visual impact cylindrical enclosure. To be discretely deployed as mast head, roof-top vents, ...



Amphenol Antenna Solutions is continuously co-creating with customers to add new versions to the NodeLine family. We are happy to co-create with you too.



About us

Amphenol Antenna Solutions is a premium antenna solutions provider dedicated to the single objective of designing and manufacturing high performance antennas.

We are a customer-centric antenna company that partners with our customers to develop innovative and tailored solutions, that secure optimal coverage and capacity under all circumstances.

We are independent of any RAN vendor, but work with them all, including vRAN vendors, to create customized antenna solutions. This gives us a unique position in the preparation for ORAN future.

With manufacturing and R&D in Europe, Asia and America, we offer local support to our customers
– **Across the world. Around the corner.**

Visit [amphenol-antennas.com](https://www.amphenol-antennas.com)

