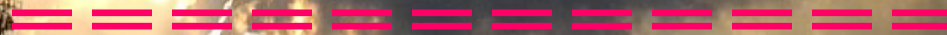




i-AIR™

**CARRIER-CLASS
OPTICAL WIRELESS
IP TRANSPORT**





CARRIER CLASS OPTICAL WIRELESS COMMUNICATIONS

[Attochron](#) (Virginia, USA) offers *i-AIR*[™]: the first-ever *carrier-class* Optical Wireless Communications (OWC) for terrestrial and aerospace '[Backhaul](#)'.

For *terrestrial* customers 50% of cell sites, businesses, schools and multi-dwelling units (MDUs) globally will *never* be able to afford fiber-optic backhaul network connections (the [Digital Divide](#)). Radio backhaul solutions face *radio spectrum* capacity limits and spectrum exhaust. 5G networks requiring millions of *new* 'backhaul' connections are adding to this [challenge](#). *Satellite communications* markets face the same challenges when connecting from Earth-to-Space: fiber-optics aren't an option and radio spectrum is scarce and can't *scale* capacity.

Attochron *i-AIR*[™] has [solved the terrestrial and aerospace backhaul cost/performance challenge](#) by *reinventing* optical wireless communications by substituting weak *continuous wave* (CW) lasers with powerful but safe [ultrashort pulse lasers](#) adding up to and beyond 40 decibels (40 dB) of link margin to optical wireless links at standard telecommunications wavelengths (1550nm).



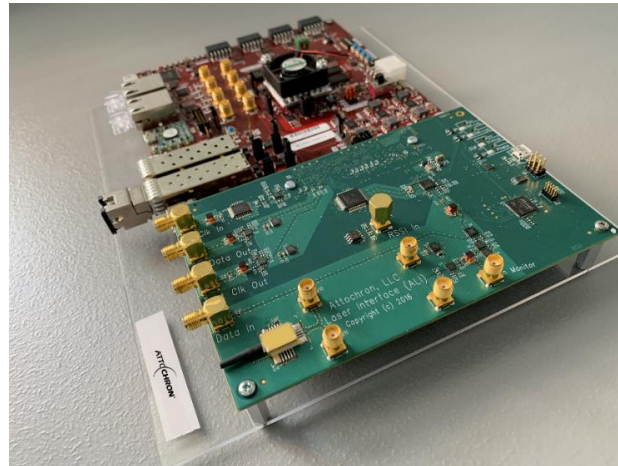
(LEFT) The *i-AIR*[™] GIG-E Backhaul Link Demonstrator System (the 'ALTIS V'); *i-AIR* product will be smaller and more compact. (RIGHT) [Attochron Founder & CEO Tom Chaffee](#) in the Attochron laboratory on the Carilion Clinic Hospital rooftop in Lexington, Virginia, USA.

i-AIR links are at once:

- [Backwards compatible](#) to all existing electrical and optical networks;
- [Complementary to fiber-optic networks](#) by extending optical network footprints driving new traffic to them;
- [Complementary to radio networks](#) by offloading data deluging RF links. Continued,

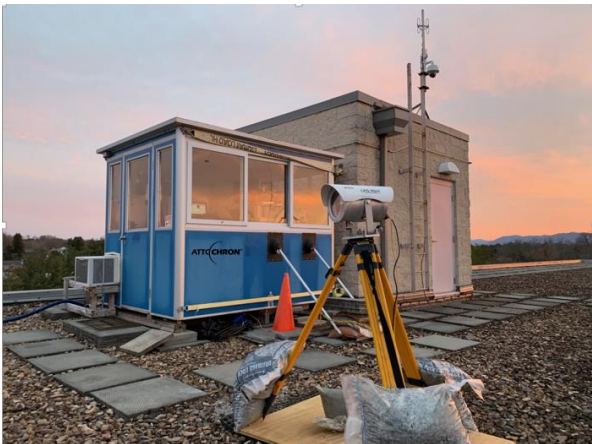


CARRIER CLASS OPTICAL WIRELESS COMMUNICATIONS



Attochron Laser Interface™ (ALI™) the only network interface in the world enabling femtosecond lasers to seamlessly connect to pre-existing electrical and or optical networks transport network elements.

Attochron *i-AIR* virtually eliminates the long-standing optical wireless communication ‘peak-to-fade’ challenge – a major breakthrough for optical wireless communications by itself. USPL [superchannels](#) will scale data capacity for years with [photonic integrated circuits \(PICs\)](#), well beyond *any* CW laser-based optical wireless communications solution. Attochron USPLs boast the best jitter specification *in the world* for any optical network element (femtosecond) – in turn advancing SATNAV and GPS capabilities; in toto, a remarkable value proposition.



(LEFT) Attochron is demonstrating *i-AIR* use cases from Attochron’s rooftop laboratory on [Carilion Clinic hospital](#) in Lexington, Virginia, USA. (RIGHT) Attochron intern Washington & Lee University EE major Jeff Bradley WLU ’21 pictured in another Attochron link-range laboratory.