FEATURE
TIME NO BARRIER FOR TRANSIT WIRELESS
as it delivers $300m network ahead of schedule

ARTICLES
CREATIVITY KEY AT HACKTRAIN 3.0
Developers, designers and entrepreneurs collaborate on the go

TCONNECT
Canadian commuters tap into Wi-Fi

INTERNATIONAL SUCCESS
Broadcast Australia recognised for its commitment to sustainability
Transit Wireless has fast-tracked the delivery of its $300 million Wi-Fi and cellular network to all of New York City’s underground subway stations, hitting completion two years ahead of schedule.

Construction of the wireless and Wi-Fi network began in 2011, with the final station originally slated for completion in late 2018. Transit Wireless was able to accelerate the deployment process and brought the final station online on 9 January 2017, well ahead of the original schedule.

Transit Wireless’ CEO William Bayne said it had been an exciting challenge to build modern technology within an underground subway system that was more than 100 years old.

“On behalf of the Transit Wireless organisation, we are proud to be part of such a unique accomplishment,” Mr. Bayne said.

“To accomplish such a complex endeavor, it took almost unprecedented cooperation between Government agencies, public companies, and private companies to make it happen. Specifically, teams from the MTA/ NYCT, the Governor’s office, AT&T, Sprint, T-Mobile, Verizon Wireless, and several NYC agencies joined forces to expedite these critical communication services nearly two years early.”

Transit Wireless has a 27 year-long partnership agreement with New York’s MTA to design, build, operate, maintain and finance cellular and Wi-Fi connectivity in its underground subway stations.

In conjunction with New York’s MTA, Transit Wireless is also deploying several communication technologies to enhance public safety in the subway. These specific technologies include a dedicated public safety broadband network and highly visible Help Point Intercoms which offer immediate access to emergency services’ system Enhanced 911 (E911) at the touch of a button.

Transit Wireless has built the infrastructure for more than 3,000 Help Point Intercoms in 277 underground subway stations. This infrastructure allows thousands of MTA customers, employees, contractors and emergency services a connected capability not previously experienced.
The complex project began in 2011 with six underground stations in Manhattan’s Chelsea neighbourhood and concludes with more than 277 subway stations ‘online’ in New York. The project provides riders with wireless, Wi-Fi and public safety services. Transit Wireless delivered the entire program two years ahead of the original schedule date of 2018. Only four stations remain as they undergo renovation; all services will be available online for riders immediately following the conclusion of the stations renovations.

**New York City Underground Wi-Fi network**
- Online network operates 24 hours x 7 days a week x 365 days a year
- 22 subway lines connected
- 277 underground stations ‘online’
- 5.6 million daily riders
- 8.6 million connected sessions monthly

**Transit Wireless Partnership with MTA**
Transit Wireless has a 27-year partnership agreement with the New York MTA to build a modern technology infrastructure project within a subway system that is more than 100 years old. Transit Wireless has designed, built, operates and maintains cellular and Wi-Fi connectivity in New York’s underground subway stations.

To bring the critical communication services to riders, two years ahead of schedule, unprecedented cooperation was required between stakeholder organisations:
- Governor Andrew M. Cuomo and his office
- MTA/NYCT
- Government agencies
- Public and private companies
- AT&T
- Sprint
- T-Mobile
- Verizon Wireless

**Underground Connectivity**
inMOTION Wireless joins the ranks of BAI Communications

BAI Communications has expanded its global reach into Northern America, acquiring United States transit communications network provider inMOTION Wireless Inc.

Based in Boston, inMOTION Wireless will be rebranded immediately to BAI Communications USA. The company has an exclusive 22 year license to design, build, finance and operate a high speed telecommunications network across the Massachusetts Bay Transport Authority (MBTA) commuter network.

As the sixth busiest commuter system in the United States, the MBTA commuter network covers more than 400 miles of rail, subway, and ferry services and helps move more than 35 million passengers each year.
CEO for BAI Communications USA Jerry Elliott takes the helm of the Boston-based operation, with the responsibility of successfully delivering the MBTA Wi-Fi, wireless and fibre infrastructure project.

“Boston commuters spend, on average, 60 minutes commuting each day, so I believe our global experience in delivering high quality networks can help transform the daily commute for MBTA passengers,” Mr Elliott said.

“We are aiming for a seamless integration of inMOTION Wireless into BAI Communications, while addressing the immediate requirements of the MBTA Wi-Fi project.”

As part of the MBTA agreement, BAI Communications USA will extend its advanced technology and communications network management expertise track-side throughout the lifetime of the project.

The MBTA commuter network spans across 175 cities, towns and villages in East Massachusetts and Rhode Island and BAI Communications USA will deliver advanced communications and Wi-Fi services across the entire track-side network. This project will enable MBTA to support its commuter’s needs of constant connectivity.

BAI Communications Group CEO Jim Hassell said he was excited by the number of opportunities the USA rail market presented the company.

“I believe BAI is well positioned to manage the demands of today’s digital commuters by collaborating directly with cities to deliver large scale communication networks for its digitally connected passengers,” Mr Hassell said.

...I believe our global experience in delivering high quality networks can help transform the daily commute for MBTA passengers.

MBTA Commuter Network

- Network is active across rail, subway and ferry lines
- Sixth busiest commuter system in the USA
- 400 miles in length
- 137 stations
- MBTA Commuter Network runs through 175 cities, towns and villages
- 35 million passengers annually across the network
Participants visited six venues, and completed two rail trips across the UK and Europe (HackTrainUK and HackTrainEU), collaborating, creating and coding on the go. HackTrain also featured a range of leading rail industry figures including Jean-Jacques Thomas, Chief Innovation Officer of SNCF and Beth West, Commercial director of HS2.

The HackTrain draws data from industry insiders and works with rail providers and other businesses operating in the rail space to identify key issues facing the sector.

Each year this data is provided to teams of participants tasked with creating revolutionary products to assist the industry to meet the challenges of tomorrow. This year, BAI challenged one team to devise a use for the large amounts of data they receive from train station Wi-Fi.

Expert panels then judged the products with the winners receiving a fully paid trip to Hong Kong to attend HackTrainHK in 2017. The winning team, from HackTrainUK, produced a dynamic ticket allocation system designed to combat overcrowding on trains. It’s innovations like this that ensure railways retain customers in the age of digital disruption.

“BAI is thrilled to be supporting the finest talent in the tech industry at HackTrain 3.0. We are committed to innovation both in our Transit Communications business, and in the industry at large,” Chris Jaeger, BAI’s Managing Director for Transit Systems and Large Venues.
“At BAI Communications, we’re dedicated to supporting local communities around the globe. We have a strong history of partnering with some of Australia’s most celebrated arts and are proud to support Bangarra on their journey to create experiences that change society. Our partnership reflects a common desire to bring people closer to the things they love.”

JIM HASSELL, GROUP CEO
BAI COMMUNICATIONS
BAI Communications company, Radio Frequency Engineering (RFE) has achieved the Bronze Quality Award in Hong Kong’s MTR Projects Quality, Safety, Environmental and Stakeholder Engagement Awards held 11 November 2016 in Hong Kong.

RFE held off competition from more than 100 MTR civil and electrical mechanical contractors, to claim bronze for its outstanding quality performance on contract 761 KTE of the Kwun Tong Line Extension project.

BAI’s Managing Director for Transit Systems and Large Venues, Chris Jaeger said the award was a testament to the quality and performance that RFE promised as a leader and innovator in its field.

“RFE’s cutting edge technology and unique engineering solutions enable it to operate at premium performance across a broad industry spectrum,” Mr Jaeger said.

The Contract 761 KTE encompasses the radio services for MTR Corporation, Fire Services Department (FSD) and Hong Kong Police (HKP) - the radio system RFE provides is vital for the daily operations for the Kwun Tong Line Extension.

The Kwun Tong Line Extension successfully commenced passenger service in October 2016. The extension opening will bring greater convenience for passengers travelling to and from Ho Man Tin and Whampoa and its vicinity, providing seamless connections to MTR’s integrated Hong Kong railway network.

MTR Corporation is regarded as one of the world’s top railway operators for its quality, reliability and service. The MTR Projects Quality, Safety, Environmental and Stakeholder Engagement Awards recognise and encourage outstanding performance by contractors and consultants on its new railway projects. RFE have previously received the Bronze and Gold awards in 2013 and 2015 respectively.

The award was a testament to the quality and performance that RFE promised as a leader and innovator in its field.
TCONNECT – 100,000 Canadian commuters’ tap into Wi-Fi daily

BAI Canada continues to roll out its high performance Wi-Fi network, branded TCONNECT, to subway stations across the Toronto Transit Commission (TTC). Since December 2013, TCONNECT has provided users with quality Wi-Fi connections throughout Toronto’s subway stations growing its network to hit a milestone of more than 100,000 logons daily.

TCONNECT has new stations coming online every few weeks, with more than 50 TTC stations currently active. BAI Canada will complete the full network roll out before mid 2017, with a total of 65 stations in Toronto coming online.

TCONNECT offers subway riders and the TCC access to its FREE Wi-Fi network, thanks to its advertiser sponsored service. The service sees more than 95% of TCONNECT users access the FREE Wi-Fi network through their connected smartphones.

With more than 250 access points deployed across the TTC’s downtown subway stations alone, commuters are able to access the internet and stream online content at lightning fast speeds. Toronto’s transit riders consume more than 15TB of data monthly on TCONNECT’s network.

To learn more about how to become a TCONNECT sponsor, and the incredible take up of services by Toronto’s commuters, visit http://tconnect.ca/

Toronto’s transit riders consume more than 15TB of data monthly on TCONNECT’s network.
TowerXchange: How would you describe the current state of infrastructure sharing in Australia? How has this evolved over the years and where do you see it going?

Broadcast Australia offers largest population and geographic coverage among independent tower providers

Clients of the 600+ tower network include Telstra, Optus, Vodafone, TPG, and other wireless providers

Tower infrastructure sharing is relatively mature in Australia, the main telcos have infrastructure sharing agreements with each other, and with the main tower infrastructure providers.

In terms of pricing models, we are seeing some newer approaches, moving away from the “menu price list” approach to an “all you can eat” type of pricing.

But overall, we don’t expect the price level for a new tenant on a site to be changing much in the future. This is mostly due to the fact that customers want access to infrastructure at low cost, and without the burden associated to building their own structure.
...customers want access to infrastructure at low cost, and without the burden associated to building their own structure.

One of the areas Australia is lagging behind compared to international markets is the lack of neutral hosts in the distributed antenna systems (DAS) and in-building systems (IBS).

The telcos and infrastructure owners – such as railways and airports – would benefit from having a neutral party to build, operate, and fund changes to the infrastructure.

I think the primary reason we haven’t seen this in Australia is because the telcos tend to work very closely together, taking turns to lead the construction of a DAS or IBS and sharing the costs.

This works for the incumbent telcos but not as well for new market entrants or other parties that may want to share a DAS system or deploy additional technology such as WiFi or emergency services comms.

We find that in our overseas operations in the United States and Canada, a neutral host solution works well for telcos, emergency services organisations, and of course for infrastructure owners.

The main thing to get right is the technology solution, to ensure everyone benefits from sharing the network.

The Australian market suffered a bit a few years ago from DAS systems with technology that was not perceived to be ideal, but I have not seen anything like that recently.

As 5G is rolled out, starting probably next year, I do think that we will have more DAS and small cells and I’m hopeful that this will present an opportunity for a neutral host to build some shared infrastructure, which we of course would like to have a role in.

Full article includes:
- Coverage, footprint, and business model of Broadcast Australia
- Challenges of building and operating towers in Australia
- Considerations on tenancy ratio and lease rate factors
- Emerging pricing models and future opportunities in small cell and DAS
Broadcast Australia wins the acclaimed IABM International Award for Excellence in Sustainability.

BAI Communications company, Broadcast Australia has been recognised by the highly respected international trade association for suppliers of broadcast and media technology (IABM), for its commitment to environmental responsibility and sustainability.

This award celebrates Broadcast Australia’s ability to take a remote transmission site, located near Muswellbrook, New South Wales, almost entirely off the grid using a solar-powered system, which can sustain up to 95 per cent of the site’s power requirements, and continue to provide services to more than 50,000 users within a 500km radius.

Broadcast Australia’s CEO Peter Lambourne said the company was proud to install the renewable energy solution and being able to remove the transmission site off-grid if necessary.

“The system has been designed with the Australian outback in mind. With many sites operating under harsh conditions in extremely remote areas, the system needs to provide the reliability that the outback demands,” Mr Lambourne said.

The Photo-Voltaic system is made of 72 advanced storage batteries with a 215kWh capacity, 3 inverters that can be monitored online, and 156 solar panels. The batteries, once fully charged, produce enough solar energy to run the transmission system for up 43 hours at any one time. The incumbent diesel generator was retained as a backup system, for safety precautions in case of periods of adverse sunlight.

The project was not without its challenges, requiring 24-hour reliability, enough power to cover the 40mWh consumed at the site annually, and remain commercially viable. After a year of trial, the award-winning solution was successfully producing enough power to cover 95 per cent of the site’s energy requirement.

IABM Director of Technology and Innovation John Ive said the success of the trial had given BAI Communications the right credentials to win the excellence in sustainability award.

“BAI Communications can now confidently pursue its quest to become a carbon neutral organisation, and a leader in delivering energy efficient services within the broadcasting industry,” Mr Ive said.

Broadcast Australia has made a commitment to reduce its carbon footprint by 10 per cent by 2019 and have entered a partnership with Photon Energy to trial its award winning solar solution. Additionally, Broadcast Australia is exploring other renewable energy projects around Australia and will also install a second solar solution at its Mount Owen site in Tasmania at the beginning of 2018.
Broadcast Australia has appointed Peter Lambourne to the role of Chief Executive Officer, following his successful tenure as Chief Operating Officer.

The newly created CEO position is a reflection of BAI Communications’ strategy to deliver additional services to our broadcast customers. Broadcast Australia is at the forefront of broadcast transmission in Australia, responsible for delivering national television and radio broadcast services for the ABC, SBS and commercial broadcasters including Southern Cross Austereo, WIN Television and The Australian Radio Network.

Having previously led a range of strategic and successful project deliveries across the company, Peter will continue to strengthen Broadcast Australia’s digital broadcasting leadership to meet customers’ needs in this digital age.

“I am incredibly honoured to be taking the helm of such a long standing Australian business,” Mr Lambourne said.

Peter joined Broadcast Australia as Chief Operating Officer in 2011, after previously working as Managing Director of Digital Distribution Australia for seven years.

Alongside his reputation for delivering innovative and large scale projects for customers, Peter has consistently led and developed strong organisations focused on excellence and quality with safety at its core.

Peter is set to continue this legacy as Broadcast Australia CEO as he leads our customers through an ever-evolving technology innovation journey with the changing face of digital TV broadcasting and more.

I am incredibly honoured to be taking the helm of such a long standing Australian business.
Earlier this year Jerry Elliott was appointed to the newly created role of CEO for BAI’s USA operation. Mr Elliott brings a wealth of knowledge and experience in the areas of wireless data, data security, broadband and wireless infrastructure and communication services.

He is an experienced leader and in his previous roles at Cricket Wireless, Virgin Media, Global Signal, and Frontier Communications, he successfully led substantial company transformation projects and achieved rapid growth.

In the role, Mr Elliott will be responsible for delivering a major infrastructure project across Boston’s commuter network, and driving a profitable and sustainable business.

The Boston infrastructure project will be a milestone for BAI’s North American operations, as this project will see BAI Communications expand its reach from below ground transit to above ground transit for the first time.
More recently, BAI Communications Group CEO Jim Hassell appointed former Telefonica O2 executive, Billy D’Arcy, to the role of CEO for the company’s UK operation.

This appointment comes as BAI Communications continues to strengthen its presence in Europe and the UK since the launch of its London office last year.

In this role Mr d’Arcy will be responsible for delivering advanced wireless communications services to large-scale transport networks across UK and Europe.

Mr D’Arcy has an impressive track-record in the telecommunications industry across Ireland and the UK, including Cable & Wireless, Eircom, Worldcom and Telefonica O2 UK, and most recently as Managing Director Enterprise & Public Sector for O2’s UK operations.

“I am thrilled to be joining BAI Communications at such an exciting time in the company’s history,” Mr D’Arcy said.

“Building on its successes across the globe, I believe BAI Communications is best placed to support Europe and the UK’s infrastructure plans over the coming years.”

CEO Jim Hassell said he had no doubt Mr D’Arcy would deliver growth, excellence and innovation for UK customers.

“I have the utmost confidence that Billy’s experience at developing strong partnerships with customers and attracting top talent, will benefit our relationships with UK transport authorities, local government and Mobile Network Operators,” Mr Hassell said.