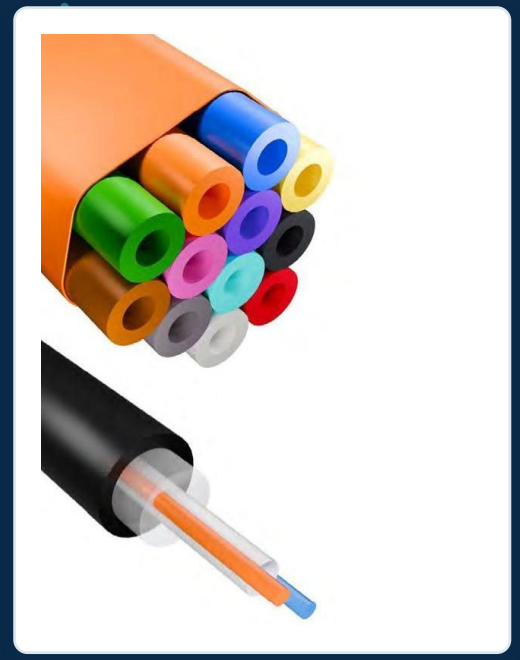
EMTELLE · PASSIVE FIBRE INFRASTRUCTURE

Build the Infrastructure Once, Scale the Fibre when you need it.



Why ISPs are switching to air-blown microduct networks for faster, lower-cost, future-proof fibre rollouts

Aaron Curtis – APAC Senior Solutions Architect
Maser Communications Australia

MASER

THE COST PROBLEM

Where the Money Actually Goes

In fibre deployment, the cable is rarely the expensive part. Civil works — trenching, permitting, restoration and labour — is where the budget goes, in Australia as much as anywhere.

60–80%

of typical fibre deployment cost is civil works

~$4,400

NBN Co's average FTTP capital cost per premises

$3.8B

Committed under Fibre Connect to upgrade remaining FTTN/FTTC

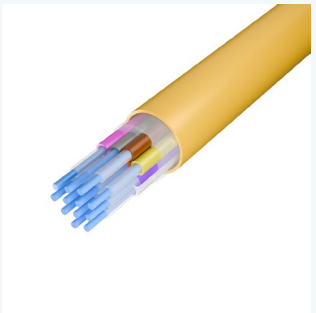
40%+

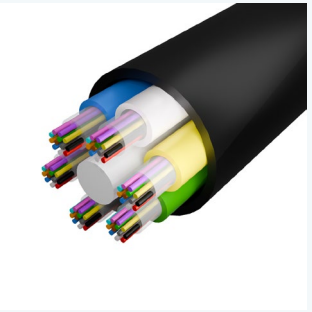
Chorus (NZ) FTTP deployment cost reductions

Sources: NBN Co corporate reporting; Australian Government & NBN Co Fibre Connect program; Chorus (NZ) public disclosures.

THE TECHNOLOGY

What Is Blown Fibre?





Blown fibre (air-blown fibre / microduct installation) deploys optical fibre by propelling lightweight cable through a pre-installed network of small plastic tubes — microducts — using a controlled stream of compressed air, rather than pulling or trenching cable into place.

- **Empty duct first**

  A network of empty microducts (typically 5–16mm) is installed once — via trenching, moling or existing Pit and Pipe.

- **Fibre added on demand**

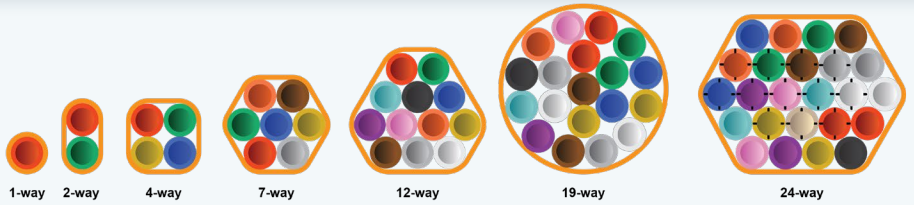
  Cable is blown in later, street-by-street or even customer-by-customer, only when a connection is needed.

- **Low-stress installation**

  Distributed air pressure carries the cable along its length instead of pulling from one end.

INSIDE A MICRODUCT

Air pressure distributes force evenly along the cable, so it can travel long distances around bends with minimal friction or stress on the fibre.



The CapEx Impact

Blown fibre separates civil works from fibre deployment.

1 **One civils pass, sized for growth**

Trenching and permitting happen once for the whole duct network — routed and sized for demand years away, not just today's order.

2 **Install lit capacity on demand**

Light up fibre where it's needed now; leave duct empty — and unpaid for — where it isn't, yet.

3 **Vendor evidence, not our numbers yet**

Case studies report CapEx savings in the 20–25% range vs. splice-heavy builds — a mechanism worth testing, not a figure for the board pack unchallenged.

CAPEX MECHANISM

Civils cost paid once, not per run

vendor case-study range — to validate against our own crew and duct pricing

The OpEx Impact

This is where blown fibre really earns its keep — and it doesn't rest on any single disputed statistic. It follows from how the two methods physically work.

1 **Same-day fault response**

A failed strand is blown back in through existing duct — often the same day, with a two-person crew instead of a full trenching operation.

2 **Upgrades without re-trenching**

Need higher capacity or a new fibre type in five years? Blow it through duct that's already there — no new trench, permits or restoration.

3 **Fewer splice points, leaner crews**

Runs of up to 6,000m before a splice is needed, and blowing fibre takes a smaller, less specialised crew than a full pulled-cable install.

OPEX MECHANISM

Blow it back in — don't dig

traditional fibre pays its labour and excavation bill again every time the network changes

TRACK RECORD

Two Decades, Proven in Australia

Emtelle duct and blown fibre systems installed with 1,000s of sites and km of network deployed across the nation

- **Airports – Major and Regional**
- **Data Centres – Outside & Inside Plant. Data Centre Interconnect**
- **ISPs – Intercity, Backhaul/Trunk & Client Connection**
- **Defence Bases, Navy Vessels and Assets**
- **Road, Tunnels & Rail Corridors**
- **Hospitals**
- **Utilities – Including High Reliability DTS Assets**
- **Metro and Regional Councils**
- **Financial Institutions, Universities, Government buildings etc**

20+

years active in the Australian market

25

year manufacturer warranty on Emtelle duct networks – Installed by trained and certified contractors

70+ Companies

National network of certified installers in every state and territory

ADVANTAGES 01 & 02

Faster, Cheaper to Deploy

Blowing fibre into empty duct — rather than trenching and pulling cable-by-cable.

1 **Duct once, connect on demand**

Build ahead of demand; connecting a customer is a same-day blow-and-splice job, not a new dig.

2 **No re-digging per connection**

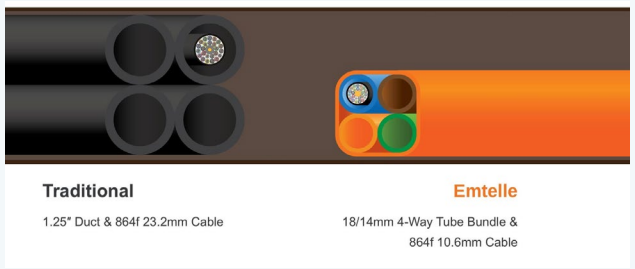
Every new subscriber uses existing duct — no repeated trenching or road closures.

3 **Smaller crews, less civil works**

Trenchless techniques and compressed-air blowing need far fewer technicians than pulling heavy cable.

4 **Less fibre waste**

Cable is only blown to where it's needed, avoiding over-provisioned pulled sections.



SIZE COMPARISON

Traditional 32mm Sub duct / Conduit vs. Emtelle 18/14mm bundle — same 864-fibre capacity, four independent pathways in a fraction of the footprint.

NETWORK CAPACITY

Install once, scale to 6,912 cores

from one 12-way 16/12mm microduct bundle — 576F per Tube, no re-digging

ADVANTAGES 03–05

Built to Scale, Built to Last

A microduct network is built once but used for decades.

1 **Spare capacity built in**

Duct bundles reserve pathways for future upgrades, extra providers, or new tech — no new streetworks.

2 **Distributed, not pulled**

Installation force spreads evenly along the cable, meaning fewer micro-bends and stress points.

3 **Sealed, protected, easy to repair**

Fibre stays enclosed against moisture, rodents and impact; damaged sections blow out and replace easily.

4 **Compact in congested ducting**

A fraction of the diameter of conventional cable, fitting more paths into existing infrastructure.

BACKED FOR THE LONG RUN

25-year manufacturer warranty on Emtelle duct networks — a cheap install that fails early costs more over five years than doing it right the first time.

NETWORK LIFECYCLE

Built once, relied on for decades

vs. traditional trenched / pulled-cable fibre deployment

THE COMPARISON

Blown Fibre vs. Traditional Pulled Cable

CRITERIA	EMTELLE BLOWN FIBRE	TRADITIONAL PULLED CABLE
Installation method	Air-propelled through pre-laid microduct	Cable pulled/winched through duct
Crew size & kit	Small crew, portable blowing unit	Larger crew, winches & pulling gear
Cable stress	Distributed force along full length	Concentrated tension at pull end
Adding capacity later	Blow in new fibre without digging	Usually requires new duct or trench
Cable separation	Each cable in its own dedicated microduct pathway	Cables share one conduit – new pulls risk existing cables
Street/road disruption	One civils pass, connect on demand	Repeated works as demand grows
CapEx	Fewer pits, less splicing – Continuous runs of 6km	Increased civils, splice points and points of failure

Total Cost of Ownership Over Time

TCO — CapEx plus cumulative OpEx over the asset's life.

1 **Year One**

Duct installation costs roughly comparable to, or modestly above, a single traditional cable pull — because you're sizing infrastructure for future demand, not just today's need.

2 **Years Two Through Five**

This is where blown fibre pulls ahead: every expansion, repair and upgrade avoids the civil-works cost that a traditional network has to pay again, and again.

3 **Beyond Year Five**

The gap compounds — every avoided re-trench stacks on the last. Fibre Connect alone has hundreds of thousands more FTTN/FTTC premises scheduled to be touched again before 2030.

TCO TRAJECTORY

Stronger, not weaker, over time

every avoided re-trench, on Australian ground, at Australian labour rates, is pure savings a traditional build doesn't get

What This Means for Us

So what does this mean practically, for a network we're planning today, in this market?

1 **Design for tomorrow's demand**

The marginal cost of extra duct capacity now is small. The cost of re-trenching for it later isn't — especially across regional and remote Australia.

2 **Shift crew composition**

Fewer expensive trenching and splicing specialists tied up in routine expansion; more capacity for fast-turnaround blowing crews.

3 **Budget differently**

A first-year CapEx line, offset by a materially lower OpEx trajectory from year two onward.

4 **Treat duct as infrastructure**

The duct network is the asset. The fibre inside it is topped up as demand requires — cheaply, quickly, without breaking ground again.

THE BOTTOM LINE

Pay the cost of digging once — not every time the network needs to grow or heal.

THE MINDSET SHIFT

Duct is the asset. Fibre is consumable

with years of Fibre Connect and Telstra InfraCo builds already ahead of us

Thank You

Aaron Curtis – APAC Senior Solutions Architect
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