

Together we're building
New Zealand's fibre future



Who we are

Chorus is New Zealand's largest telecommunications utility company. We maintain and build a network made up of local telephone exchanges, cabinets and copper and fibre cables. Approximately 1.8 million lines are connected to homes and businesses throughout the country.

CHORUS noun (kōr'us)


Our name says a lot. It describes a large group performing in concert. It's about working in harmony; each of us playing our part in achieving what we set out to achieve. We're there in the background providing the support that helps to connect New Zealanders with each other – and the world.

It's an open network. We work with many different phone and internet providers to give access to our network and develop innovative new products and services. Our customers include Actrix, Airmet, CallPlus, Compass, Digital Island, Gen-i,

Orcon, TelstraClear, Telecom, TrustPower, Vodafone and WorldxChange to name a few. Our team helps these service providers connect their customers to the world. You'll see them out and about all the time. 2,000 field technicians working on our

behalf make about one million visits to New Zealand homes and businesses each year, maintaining and repairing existing phone and broadband lines – and installing new ones. Right now, we're laying thousands of kilometres of fibre optic cable and ducting

to bring broadband to rural communities and deliver ultra-fast broadband to more than 830,000 homes and businesses across New Zealand. The future of telecommunications is exciting and we're working hard to make it happen.



27,600_{km}
↑
OF FIBRE CABLE
– AND COUNTING

Our history

In different guises we've been guardians of New Zealand's telecommunications network from the beginning.



It started with the first 'talking telegraph' trial in 1877 which led to the formation of the New Zealand Post and Telegraph Department in 1881. What followed was 130 years of communications evolution that saw telephones in nearly every home, the privatisation of the network and birth

of Telecom in 1987, and the arrival of the internet and mobile phone technology. Now optical fibre ushers in a new era. Chorus was formed in March 2008 as a Telecom business unit operating at arm's length from the rest of the organisation.

Its role was to give all service providers access to the local fixed line network. In December 2011, Chorus reached a major milestone, formally becoming a separate entity in its own right and listing on the New Zealand stock exchange.

Today, as New Zealand's largest telecommunications utility company, Chorus continues its long heritage of building and looking after the country's fixed line telecommunications network for present and future generations.



1983 ←

WE LAID THE FIRST FIBRE
CABLE IN THE GROUND

Building a world-class network

At the moment, there's a lot of talk about fibre. That's because fibre optic cables are key to building a world-class telecommunications network.


Fibre can deliver large amounts of data further and faster than the copper cables traditionally used for telecommunications services. Right now, we're rolling out the Government's ultra-fast broadband (UFB) plan to bring fibre even closer to homes and businesses. This fibre-to-the-premises (FTTP) network means it will be possible to deliver the high

data speeds that can support services like internet television and high definition video conferencing. The UFB programme involves laying thousands of kilometres of fibre optic cable and ducting to bring ultra-fast broadband to more than 830,000 homes and businesses.

OFF TO A FLYING START

It's a massive project that will keep us busy until the end of 2019. The good news is we have a head start because we've been laying fibre since the early 1980s. We already have nearly 30,000km of fibre connecting telephone exchanges

and suburban broadband cabinets. This means that, today, around 80% of New Zealanders are connected to a network with a fibre backbone so they can access higher speed broadband services or take advantage of new DSL technologies like ADSL2+ and VDSL2.



20,000_{km}

ULTRA FAST BROADBAND AND
RBI WILL DELIVER MORE FIBRE

for New Zealand

CHECK OUT OUR PROGRAMME

Schools, health facilities and businesses are being connected as a priority to ultra-fast broadband. At the same time, we are passing and connecting a steadily increasing number of homes. Our website features a map that outlines

UFB areas showing the areas we will be building UFB in the first year (up to July 2012) and where customers can access our business fibre today. You can check whether ultra-fast broadband is available in your area, or whether it will be soon, at chorus.co.nz/ournetwork

CHORUS COMPLETES FIBRE TO THE CABINET

We have just completed a massive four-year programme to upgrade the local broadband network to more than 80% of New Zealand. This involved upgrading the broadband equipment in telephone exchanges, and installing over 3,600 new fibre-fed broadband cabinets across the country. This brought the fibre and broadband equipment closer to people's homes so that the network can support broadband of up to 10Mbps.

Getting ultra-fast broadband to your neighbourhood

- 1 **Microducts** These enable fibre to be blown along the street and to each property.
- 2 **Optical Network Terminal**
An electronic device that the fibre cable connects to inside your house.
- 3 **Apartments** Fibre will need to run through the building to each apartment.
- 4 **Cabinet** Contains equipment that joins the fibre from the exchange to the fibre connecting your place.
- 5 **Priority** Priority is given to schools, health facilities and businesses.
- 6 **Exchange** Your local telephone exchange houses the equipment that transmits data back to your service provider's network.
- 7 **Wiring** You might need new wiring to extend high-speed capability to other rooms, or equipment such as TVs.



Note: Back up battery (not shown) may be installed in box or remotely

OUR FIBRE FUTURE

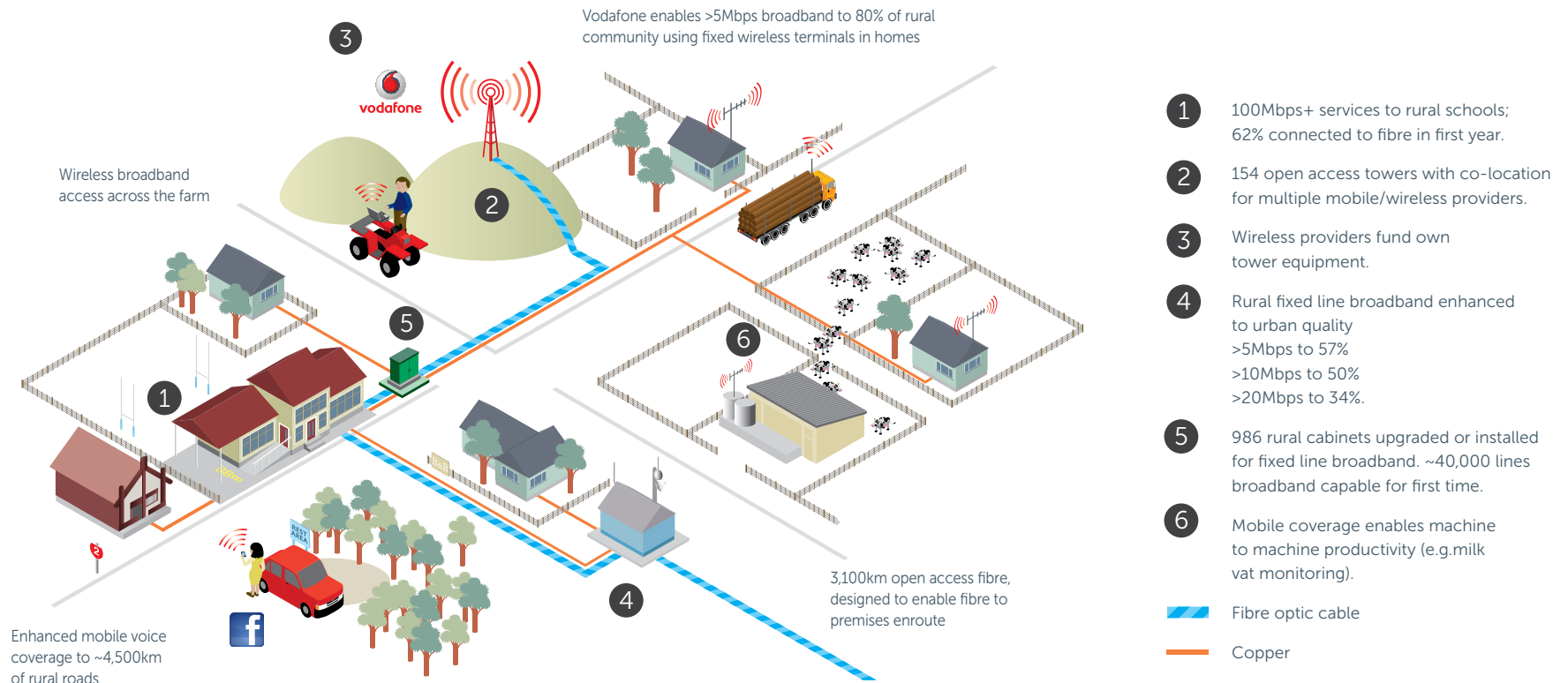
The UFB initiative takes fibre one step further – all the way to the gate or doorstep of homes and businesses. First, we're taking the fibre from the local exchange to new fibre cabinets throughout each neighbourhood. From there, we'll install fibre cables along

each street in our UFB area using existing ducts, or dig or drill to install new ducts and microduct. In some cases we may use existing street poles, although we prefer to put the network underground wherever possible. Once we've completed the work in each area, business and residential customers

will be able to arrange a fibre connection with their service provider. Their service provider will then contact us to make the connection by stringing the fibre optic cable from an existing street pole, through an existing underground duct, or through a new underground duct we install to the property.

The fibre is finally connected to the External Termination Point (ETP). This is a box on the outside of a house or building where the fibre network is joined to the internal wiring. Buildings such as apartment blocks will need fibre cabling run to each individual apartment.

Faster broadband for rural communities



TAKING FIBRE FURTHER

We're also working to bring better broadband to rural schools and tens of thousands of rural residents. To do this, we're upgrading the local broadband network by extending fibre optic cables further into rural communities.

This will connect to the new high speed broadband equipment we're installing in telephone exchanges and in new, or existing, roadside cabinets. The closer customers are to this equipment the faster their broadband speeds will be. Generally customers will have to be within

5km of an exchange or roadside cabinet to receive broadband services. Chorus and Vodafone are working together to deliver the Government's Rural Broadband Initiative. The joint project sees Chorus delivering fibre to schools, upgrading the rural network with

fibre cabinets and broadband equipment and delivering fibre to the new Vodafone mobile sites that will also deliver wireless broadband to rural communities. Find out more about our rural broadband project at chorus.co.nz/rural-broadband

Creating innovative solutions

We offer a range of options so service providers can access our network in the way that works best for them and their customers.





THERE ARE
5,800
SECTIONS WITH FIBRE SO FAR

**NEXT GENERATION
ACCESS SERVICES**

We've already launched our suite of Next Generation Access services to give service providers an end-to-end solution for delivering ultra-fast broadband over the new fibre network to their home and business customers.

This includes a suite of regulated services developed with wide industry consultation.

THESE SERVICES INCLUDE:

- Access services - Providers can access our network assets to deliver their own voice, data and internet services to their customers.
- Co-location services - Providers can place telecommunications equipment in a secure space within our telephone exchanges and cabinets to deliver services direct to their customers.
- Field services - Our field services technicians can provide a comprehensive range of phone or internet services to end-customers on behalf of service providers.

We have also gone beyond regulation to create commercial services which provide great value and the opportunity to make the most of our network assets and national reach. This includes a model or framework designed to help service providers develop unique product offers quickly and cost effectively. It's called the Chorus Co-Innovation Model and, as the name suggests, it's about working together with our customers to develop and deliver great phone and internet solutions to their customers. Central to this development model is the Chorus Co-Innovation Lab. The Lab is an open, live testing environment that gives providers the security to try out their innovations and work with our experts to discover the best way for products to perform in a real world network.

Everybody has a part to play

We are, of course, just part of the network. Service providers, the industry and even the home or business customer have important parts to play when it comes to improving broadband performance for New Zealand and making the most of the opportunity that fibre brings our way.



GET FIBRE READY

To make the most of high speed broadband today and fibre in the future, everyone needs to get the wiring in their home or business up to speed. Installing future-proofed wiring makes sense when you're building or renovating. You should install Cat5e cable² at minimum if you want to be sure the wiring to your home or business doesn't hold your broadband back.

FACTORS AFFECTING YOUR BROADBAND EXPERIENCE

While fibre connections and good quality wiring can deliver faster broadband speeds, there are other factors you need to consider to maximise your broadband experience.

These include things such as:

- your broadband plan (some plans are speed limited)
- the CPU speed, memory, hardware and operating system of your computer
- whether you are connected directly by cable or Wi-Fi
- the performance of your home or business network if you have one
- the performance of any router/switch/gateway connected between your fibre connection and your computer
- the location of the web service you are accessing content from, and
- how 'busy' the internet is at the time you are browsing.

ENVIRONMENTAL FACTORS THAT CAN AFFECT NETWORK PERFORMANCE

A network made up of electronic equipment and cables can be affected by weather and other factors.

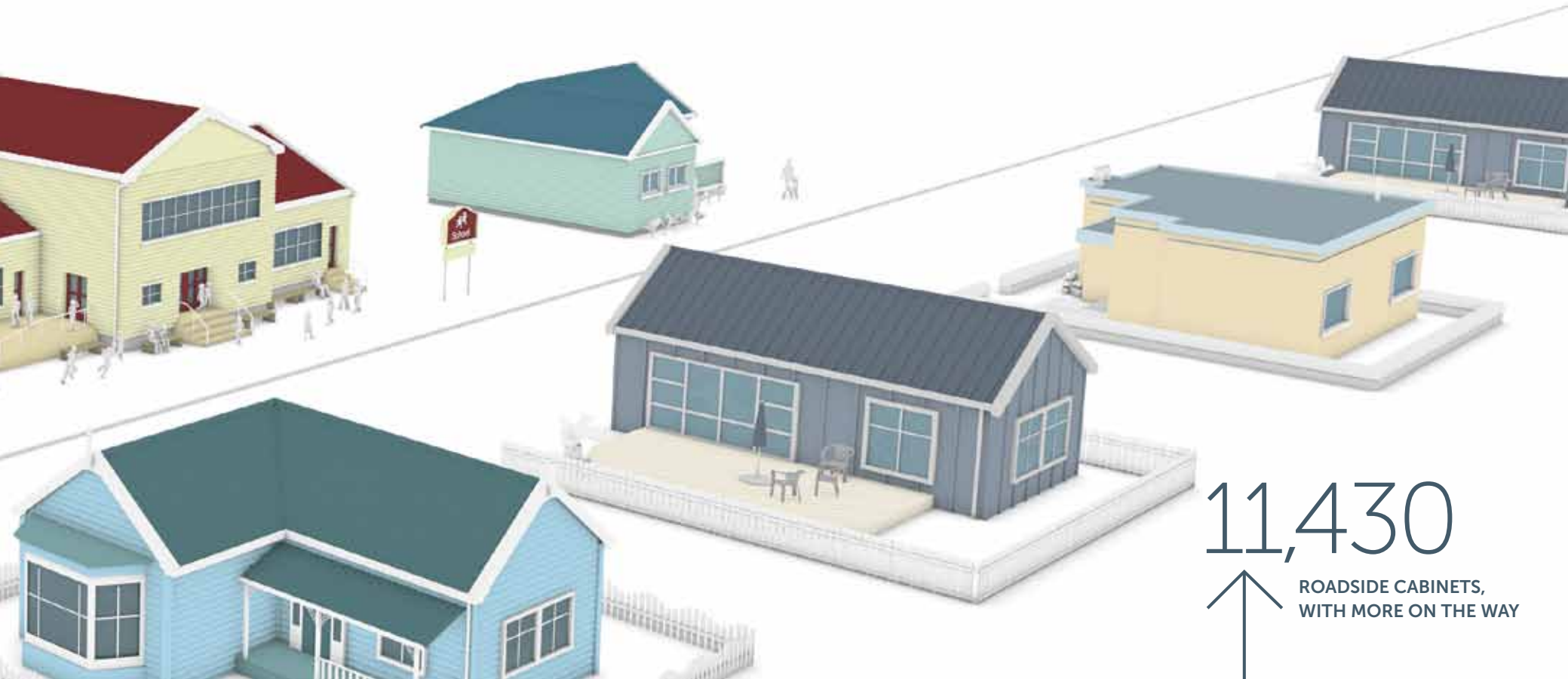
Water in the ground can seep into copper cables causing interference, lighting strikes can be particularly damaging and, of course, we're always on the lookout for excavation work that can cause physical damage to our infrastructure. If you plan to do significant digging in and around your property, you should call 0800 B4UDIG (0800 248 344) to check for the location of our cables and other underground utilities, and make sure you don't accidentally cause an outage.

In rural areas, interference from electric fences is a common problem. Fences that are poorly constructed or not earthed correctly cause noise on phone lines and can make internet connections slow or disconnect. This can affect people who live kilometres away.

TO REPORT A FAULT

For residential and business customers, your service provider is your first port of call if there's a problem with your telecommunications service.

1. Cat5e cable is a high quality copper cable – designed to deliver Ethernet based services over short distances.



11,430
ROADSIDE CABINETS,
WITH MORE ON THE WAY

Part of our communities

You'll see our people out and about all the time, but they're never a more welcome sight than in times of trouble.

Though we are a national company we are very much in touch with the local communities we live and work in. And working alongside the Chorus team are technicians from our service companies – Downer, Transfield Services and Visionstream.

In most cases, a Chorus and service company representative built or worked on the local network that serves an area, making them the utmost experts in their field. When extreme weather events and disasters like floods or earthquakes put

New Zealanders' resilience to the test, staying in touch is vital. That's when you'll find us working hard in the background, going the extra mile to help keep the lines of communication open.



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130,600 km
OF COPPER CABLE

