

# *ENABLING COMMUNITIES CONNECTING LIVES*

**ADURAN**



*THE DEMAND  
FOR BANDWIDTH  
IS INFINITE.*



# BANDWIDTH



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## **THINGS ARE CHANGING**

The rate of change is constantly accelerating. This is evident when you look at the network and realise that in less than a decade we have seen the emergence and domination of smart phones, tablets and a wealth of connected devices. Where only a few short years ago having an Internet connection was a luxury, today it is a necessity. This is true not only at home or work – but anywhere at any time. The demand for bandwidth was projected to increase 10x in the next 10 years, and networks must evolve to meet this need. That leads us to the Gigabit network.

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# THE NEED FOR GIGABIT

Gigabit networks have become more prevalent in the last five years. Many have questioned the need for Gigabit speeds, when we have not fully utilised the bandwidth available today. But others have embraced the vision for Gigabit services, and are using it as a force for change within the communities they serve. Gigabit services connect the citizens of a community and enable growth and prosperity. Areas that were once desolate or dying have found new life through the emergence of Gigabit services. These ultra high-speed broadband networks are also serving as a catalyst for the future, bringing new jobs, new innovation and new beginnings.

*“Communities around the globe — from dense urban to sparse rural and everywhere in between — have determined that affordable high-speed broadband is no longer a nicety, but a requirement for economic prosperity and quality of life...”*

*“Deploying fibre-rich Gigabit broadband is the logical way to go. It gives the network operator great flexibility to serve business and residences with a range of cost-effective options. We know that when broadband rates increase the global innovation engine creates new compelling applications that drive economic development and improve our lives.”*

Greg Whelan, Principal, Greywale Insights

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# DRIVERS FOR GIGABIT COMMUNITIES



Education



Business and Job Growth



Improved HealthCare



Civic Life



Connected Homes



Municipal Services

Recent surveys have shown the momentum is just beginning. NTCA-The Rural Broadband Association released a survey stating 85 percent of responding service providers indicate

they have long-term fibre deployment strategies. In the past three years, ADTRAN has witnessed firsthand the positive impact communities have enjoyed from these deployments. Some key benefits include:



## Economic Development

The availability of Gigabit throughout towns and cities has proven to attract new businesses to the area, stimulating local economies. According to a Fibre Broadband Association study, communities with widely available Gigabit broadband access experience a 1.1 percent higher per capita GDP than areas without Gigabit. Cities in Mississippi are seeing this first hand as they transform from sleepy college towns to hubs for future business investment, attracting global companies creating thousands of local jobs.

## Education

Gigabit broadband is providing school districts with the necessary bandwidth to enable online education creating more personalised learning experiences as well as maximising the benefit of E-rate funding projects. Schools throughout 15 Ohio districts are using Gigabit service to meet local educational mandates while transitioning from a structured to individualised learning experiences in the classroom. The technology is allowing networks, schools, administrators, teachers and students to communicate in new, innovative ways while learning at their own pace.

## Real Estate

A recent Fibre Broadband Association study showed that communities with access to fibre-delivered Internet can increase home values by up to 2.8 percent, or \$8,500 on a median priced home of \$300,000, and renters are willing to pay an 8 percent premium, or an additional \$1,000 per year. According to real estate agents in Oregon, this holds true as they are seeing a rise in Gigabit popularity in

neighborhood criteria. Agents have reported an increase in homebuyers looking for properties specifically in areas currently deploying Gigabit, or expecting to in the near future.

## Telecommuting

Gigabit is opening the doors for increased work flexibility by allowing employees to work remotely. Residents located just outside the tech hub of Silicon Valley are oftentimes experiencing faster speeds at home vs. their workplace. As a result, telecommuters are able to enjoy a more affordable, higher quality of life without having to give up big city jobs. All the time saved in not commuting also translates to a lower carbon footprint.

## Agriculture

The delivery of Gigabit speeds is helping streamline crucial agriculture processes and enable new services. In Indiana, a dairy farm is using Gigabit broadband to remotely monitor milk production and processing. The farm is also delivering remote and on-site educational experiences by supporting connected, interactive learning centers for children.

## Healthcare

Hospitals and healthcare facilities are deploying Gigabit broadband as they look to boost the quality of patient care. For those with ultra-fast broadband speeds, doctors, specialists and nurses are able to work efficiently with colleagues on-site and remotely. In Tennessee, doctors are able to provide care that previously wasn't available, with a local knee surgeon using Gigabit broadband to assist with 3D printing for developing patient-specific knee replacements.

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## *WHERE WE ARE*

ADTRAN has partnered with hundreds of communities who are now reaping the benefit of Gigabit broadband. We are doing our part helping service providers, cable operators, municipalities and rural carriers to deploy the ultra-fast broadband services that are changing the game for community revitalisation across the United States. Our Enabling Communities Connecting Lives - campaign envisions that every community, regardless of size, realising the transformative benefits of Gigabit broadband.

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## *GETTING THERE FROM HERE*

So, the question remains, "How do we get there?" Gigabit service delivery has traditionally meant building FTTH networks which require fibre to be pulled throughout the home. ADTRAN understands the common concerns for service providers evaluating Gigabit deployment options such as the overall cost to build an all-fibre network and how to keep up with subscriber activations and subsequent service or network upgrades in light of growing demand. Technology breakthroughs now offer lower deployment costs, improved time to market and doubled network longevity all while supporting new service creation benefits.

There are new technologies and techniques that support Gigabit speeds in a more cost-effective and timely manner. Gfast, DOCSIS 3.1, and 5G are access technologies that respectively enable operators to extend Gigabit services over existing phone wire, coax cabling, or the mobile networks. With these deployments, fibre is typically deployed to the building basement or street curb, and then any of these new technologies carry the Gigabit services to the customer device.

Current FTTH solutions support a finite number of true Gigabit broadband customers and are simply not designed to support premium symmetrical business and backhaul services. Next-generation symmetrical 10 Gbps broadband solves this issue by supporting many more Gigabit services and even offer multi-Gigabit services. This technology uniquely enables both existing residential FTTH customers and early business adopters to be supported on a single, common-access architecture.

New software-defined networks (SDN) and virtualised services are allowing operators to rapidly create and automatically activate new services. This allows for the acceleration of new revenue streams providing additional investment return for their new Gigabit broadband networks.

ADTRAN offers the most open and complete Gigabit broadband access portfolio on the market today. ADTRAN solutions are designed to maximise your existing network, while enabling the migration to Gigabit and new software-based deployment models. We not only offer the latest in technologies, but we have world-class service and support to meet both your needs and the needs of your customer, your community.

To find out how broadband transforms communities and learn more about Gigabit technologies, visit [www.adtran.com/broadband](http://www.adtran.com/broadband)

# BROADBAND TRANSFORMS COMMUNITIES



**Gigabit broadband transforms communities,  
rebuilds urban centres, revitalises schools,  
stimulates economic growth and delivers  
innovative residential and business services.**



**ADTRAN, Inc.**  
901 Explorer Boulevard  
Huntsville, AL 35806

**General Information**  
+1 256 963 8000  
[www.adtran.com/contactus](http://www.adtran.com/contactus)

**Headquarters—EMEA  
ADTRAN GmbH**  
Erika-Mann-Str. 25  
80636 Munich-Germany  
+49 89 411097 111  
[sales.europe@adtran.com](mailto:sales.europe@adtran.com)

**Central-/East and  
West Europe**  
+49 89 411097 111  
[sales.cewe@adtran.com](mailto:sales.cewe@adtran.com)

**South Europe**  
+49 89 411097 111  
[sales.southeurope@adtran.com](mailto:sales.southeurope@adtran.com)

**North Europe and CIS**  
+49 89 411097 111  
[sales.ne@adtran.com](mailto:sales.ne@adtran.com)

**Middle East and Africa**  
+49 89 411097 111  
[sales.mea@adtran.com](mailto:sales.mea@adtran.com)

**Asia**  
+61 3 9658 0500  
[sales.asia@adtran.com](mailto:sales.asia@adtran.com)

**Australia/New Zealand**  
+61 3 9658 0500  
[sales.australia@adtran.com](mailto:sales.australia@adtran.com)



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