5G is Here. So now what?

An Economic and Social Benefits Framework to assess how 5G will solve problems and impact your bottom-line

Demystifying 5G
What does it really mean to you?

There is a lot of excitement around 5G and its superpowers. A number of players in the industry are talking about technology enhancements with exponential results, such as:

- up to **10 times** faster speeds
- higher capacity and bandwidth
- ultra-low latency (delays) in transmission, as low as 5 milliseconds or better
- **first ever 99.999% reliability** on a mobile network
- up to **1 million IoT devices supported** in one square kilometer.

All of these 5G capabilities are unprecedented and impressive advancements, especially when these features are combined, but what does all of this mean to you and your organization?
Why should you care?

Executive Summary

1 The value of 5G goes beyond the extraordinary technical capabilities.

2 5G adopters need to ask 'so-what' and discover how 5G use cases can solve their real-world problems in different vertical industries.

3 Apply The 4 Dimensions of Economic and Social Benefits Framework to identify the 'why' of a 5G use case – the business outcomes to be gained.

4 Use 5G and this outcomes-based framework to help build your own business plans along the 5G evolutionary journey.

5 Collaborate with a trusted partner who understands how to translate the technology capabilities into business-relevant benefits.

TELUS® Business

Take the 5G discussion beyond technology and ask 'so-what?'

Focus on solving your real-world problems.

Adopters of 5G technology are still unclear about what 5G means for them – the **'so-what'.** The truth is, the real discussion should not be about the technology but what <u>outcomes</u> the technology will enable for organizations. The technical superiority of 5G is only the beginning – it is the foundation enabling the art of the possible. The 5G value proposition goes well beyond the technical.

First of all, you should know that 5G is a journey. It starts out as being evolutionary – enhancing existing use cases on 4G LTE and making them better, more efficient, and adding to the current value. Second, once all of the unique 5G features are rolled out, the 5G use cases will become revolutionary as the unique functionality is combined.

There are a lot of use case or application 'answers' flying around in the industry – self-driving vehicles, remote surgeries, stories of how 5G is going to take AR and VR (augmented and virtual reality) to the next level; and the promise of real-time, AI-enabled intelligent drones and IoT devices.

But what problems are these use cases or applications solving? And are they relevant to you? How can 5G impact your bottom line, top line or safety goals?

For 5G to be successful and for the full potential to be realized, businesses and organizations need to know how the power of 5G can be applied to solve their own unique and day-to-day problems as well as prepare them for the future – that includes making organizations more competitive and innovative.

It is also important to go one step further and translate these evolutionary and revolutionary possibilities into the relevance and applicability to specific vertical industries. Here are some examples of real-world problems that industries and governments are dealing with:

How will 5G solve the shortage of skilled labour problem, especially for remote locations like in the **mining** industry? And even more specifically, how can organizations manage their systems or protect critical assets with fewer people?

How does a **healthcare** system extend its reach to patients – not only in underserved rural areas, but as a result of amplified remote care needs imposed by COVID? While also managing the rising operational costs in healthcare?

How does the **finance** industry evolve its legacy, in-person operations to serve its clients remotely while also adhering to regulatory security standards and also gain efficiencies that improve their bottom line as they help clients increase their top line?

How does the already-automated **manufacturing** industry harness AI and the real-time data analytics capabilities to make more real-time decisions that increase productivity and improve competitiveness?

How do **first responders** use real-time data to save more lives or make citizens safer while also ensuring their own safety and protecting their employees?

TELUS® Business

The Outcomes-Based Framework

Great ideas generated by 5G use cases are only as good as their value to an organization. Value typically comes down to the economic and social benefits that an organization can realize – and that includes the value an organization can pass on to their own customers and stakeholders.

Organizations implementing 5G need to understand not only how 5G use cases will solve their problems but how 5G will help them realize their goals – how it will impact their bottom line and top line. What are the outcomes and benefits that organizations can gain that will motivate and justify the use of 5G applications?

While the unique and exponential capabilities of 5G are easily appreciated by CIOs and other IT professionals, technology implementation decisions are ultimately made by decsion-makers and executives who want to understand **'the why'** – or the benefits of 5G use cases to their organizations:
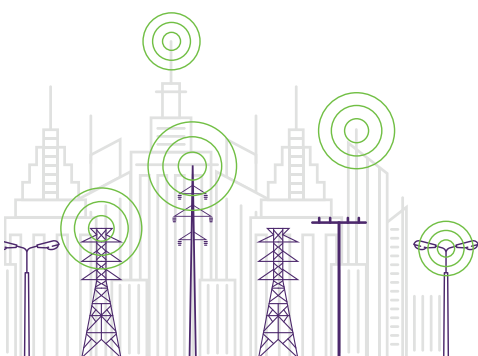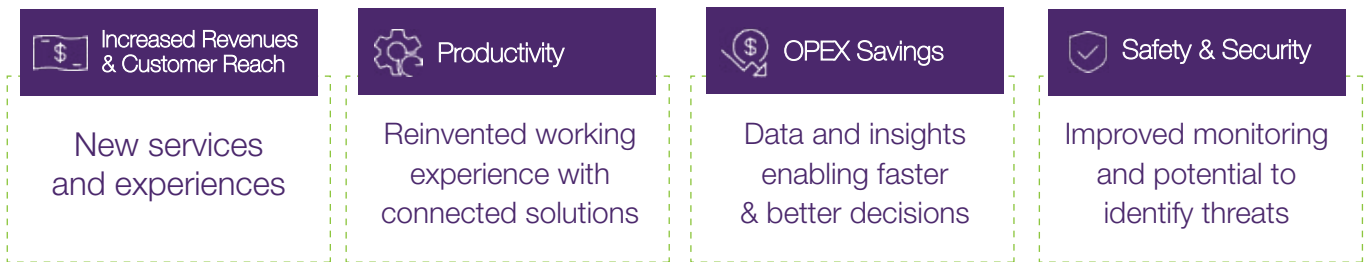
- The value to their own customers, to their employees and to their shareholders.
- The impact to their topline and bottom-line, as well as to their social responsibility goals.

An outcomes-based framework to help build your business case
It's important to build your business case – not only to help justify the implementation of 5G use cases to your board or executives, but also to help you prioritize which use cases to implement and 'when', based on your business plan and goals.

Use this framework, **The 4 Dimensions of 5G Economic and Social Benefits**, as a business planning tool to serve as a guide for your organization as you analyze and prioritize the problems you want to solve based on the outcomes you stand to gain and the goals you need to achieve.

The 4 Dimensions of 5G Economic & Social Benefits Framework

Increased Revenues & Customer Reach	Productivity	OPEX Savings	Safety & Security
New services and experiences	Reinvented working experience with connected solutions	Data and insights enabling faster & better decisions	Improved monitoring and potential to identify threats

TELUS Business

The 5G Discussion

This framework and process enables companies to sift through the 5G hype and excitement and helps them focus on what matters to them most and within their own time frame. For example, if your board is pressuring you to reduce operational expenditures over the next 2-4 quarters since revenues will be down due to the impact of the COVID-19 pandemic, you can more readily prioritize the direction you need to take.

1
Take the 5G discussion beyond technology and raise the analysis to selecting 5G use cases that will help solve a specific real-world organizational problem or challenge.

2
Identify the benefits to be gained by each use case, to help you further advance the creation of your business plan. Use **The 4 Dimensions of 5G Economic and Social Benefits** Framework to categorize the impact.

3
Prioritize which problems you want to solve with a particular use case, and when, based on the economic and social benefits your organization wants to achieve.

As we've seen with the impact of the pandemic, patient reach with remote and virtual health-care has become a necessity. 5G will help evolve and amplify that service with augmented reality, remote monitoring and diagnostics, FWA (fixed wireless access) bandwidth to provide the reach and the capacity to support advanced applications, and 5G will enable better security for sharing private information.

5G will enable us to reinvent the working experience with connected solutions, such as smart whiteboards, telepresence, augmented or virtual reality… all of which can interact with devices and applications, creating much more immersive and life-like experiences for virtual meetings, training and interactions.

The safety and social impact of 5G use cases will also be significant in communities. 5G will enable the reduction of greenhouse gases with smart traffic systems that leverage video analytics and it can enable electric, autonomous transit systems. These kinds of solutions cut to the heart of making cities smarter and safer.

Energy and manufacturing firms also show a high interest in the potential of 5G as remote operations become the norm. Connected infrastructure and cloud-connected robotics are key enablers of Industry 4.0 where highly automated operations are more responsive to changes in demand and maintenance requirements. This results in amplified OPEX savings, enhanced productivity and an increase in revenues streams with the use of AI.

Increase Revenues & Customer Reach | Productivity | OPEX Savings | Safety & Security

TELUS Business

The 4 Dimensions of 5G Economic and Social Benefits explained:

Increase Revenues & Customer Reach

The first dimension is **new revenue streams and increased customer each.** Companies like Amazon, Netflix and countless others have disrupted industries and in particular, the end-customer experience.

5G technology will accelerate the ability for companies to collect and analyze data, and use those insights to enable entirely new services and experiences.

Productivity

The second dimension is driving greater productivity. Working virtually has gone from being a luxury to a necessity because of COVID-19.

One of the things that has been permanently altered is not necessarily where we're going to work, but how we're going to work.

There's also the opportunity to address the labour scarcity challenge with 5G technology. By combining AI and data analytics we can make real-time decisions using drones in hard-to-reach places, such as in mining, agriculture and other geographically challenged industries.

OPEX Savings

The third dimension relates to **improving your business' cost structure or operational expenses**. 5G is going to make artificial intelligence applications much more mainstream, enabling companies to do things like detect safety issues in equipment before they become a real problem, or tracking inventory so you know when a product is running low.

Ultimately, this level of data and insight will enable companies to make faster and better decisions, contain costs, prevent delays, and keep people safe.

Safety & Security

The fourth dimension is the very important aspect of **safety and security**. Here we address both cybersecurity and physical security.

It's predicted there will be 75 billion connected devices in five years. That's a lot of data, which opens the door for security vulnerabilities, however, 5G will enable enhanced security advancements to address escalating security concerns.

5G can also bring drone technologies, soil sensors and connectivity to farms to help make food supplies safer and more secure.

These brief explanations are just a sample of why 5G is coming at such an opportune time. It is an enabler of applications that will allow businesses and other organizations to unlock exponential and real outcomes. **The value of 5G** will also translate into enabling companies and countries to compete more effectively in the digital economy.

TELUS® Business

This is a visual of what the first stages of the
Problem – Use Case – Benefits analysis might look like.

5G

PROBLEM

Finance

How to enhance the customer experience digitally & increase customer base?

USE CASE

Mobile Branches
Mobile-branch pop ups enable expansion of banks to new customers, allow access to funds and enhance customer service in a competitive financial industry.

BENEFITS
Increase Revenues & Customer Reach

PROBLEM

Healthcare

How to enable real-time and efficient access to data?

USE CASE

Connected Ambulances
Real-time access to specialists in hospitals to treat patients while in transit provides efficient use of resources, eases burden on hospitals and saves lives faster.

BENEFITS
Productivity

PROBLEM

Agriculture

How to address labour shortages and protect low margins?

USE CASE

Intelligent AI-Drones can address the labour shortage problem and optimize operations using drones and sensors for real-time data collection and AI decision making that saves and makes money.

BENEFITS
OPEX Savings

Use cases specific to different industries will generate exponential economic & social outcomes

---

PROBLEM

First Responders

How to save lives and protect communities?

USE CASE

360° Wearable Cameras around a firefighter's vest allows headquarters to caution firefighters about critical situations they cannot see and direct them on where they should and shouldn't go next. This saves lives, including their own.

BENEFITS
Safety & Security

TELUS® Business

So many possibilities – how do you choose?
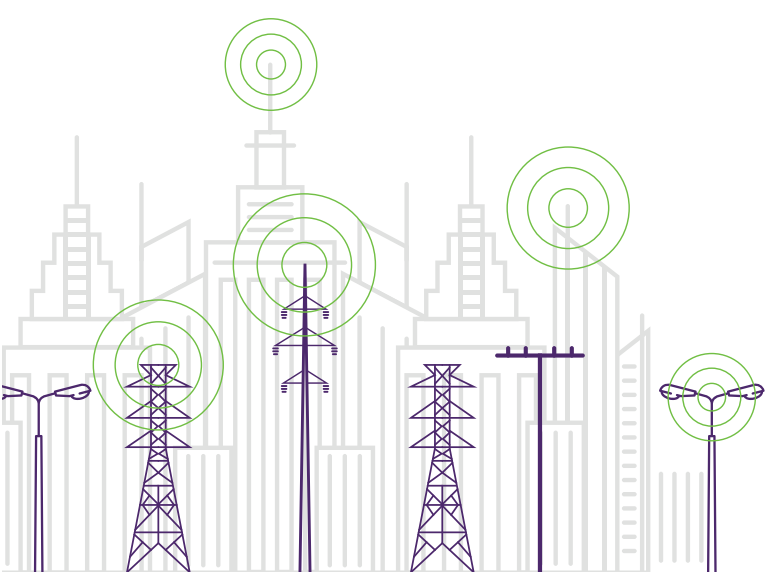## Partner for Success

The full potential of 5G and the unique, infinite possibilities will only be realized based on the needs of 5G adopters and the creativity they apply to solving their problems using 5G technology.

That's why it is important for industry and 5G adopters to work together to understand the unique real-world problems in specific vertical industries, and collaborate in exploring the extensive possibilities of solutions with 5G use cases.

Connecting technology capabilities to business outcomes that organizations care about is not easy. Collaborating with a trusted partner who understands how to create the end-to-end ecosystem and translate the technology capabilities into business-relevant benefits, is the winning combination for success in harnessing the power of 5G.

Choose a partner, such as TELUS, with the end-to-end visibility of what is required to make your organization successful in using 5G technology to solve your real-world problems and realize the goals and outcomes you are driving towards.

In this paper we covered the **'why'** and **'what'** of 5G. Check out the next paper: **The Reality of 5G and Future Possibilities** to learn more about the **'when'** and **'how'**.

telus.com/**business**

TELUS® Business