



CREDIT UNION TECHNOLOGY WATCH: 5G NETWORKS

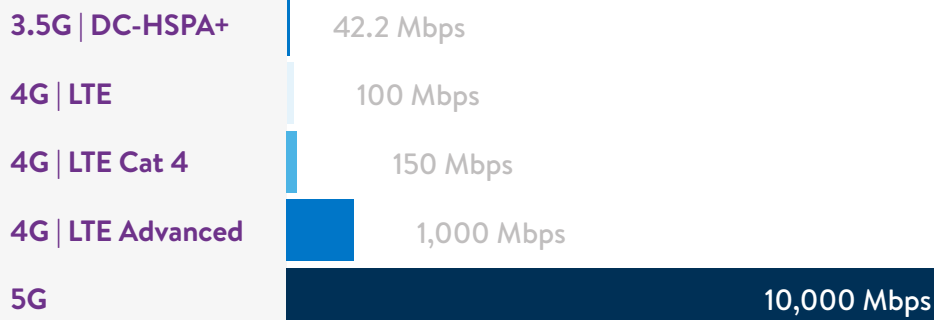


National
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In the coming years, the emergence of 5G networks will transform credit unions by improving connectivity on different devices and allowing people to adopt new platforms tailored to their specific financial health needs. 5G's low latency and bandwidth¹ are major advantages that will bolster the capability of tools ranging from mobile devices to autonomous driving. This new networking standard will change the way members connect to their data, and credit unions on the forefront of this revolution have the potential to realize strong returns on their investment and improved financial health for their members.

¹ Goran Čandrić, "[High Latency vs Low Bandwidth - Impact on Web Performance.](#)" GlobalDots, January 26, 2015.

5G networks are sparking new innovation and form the backbone of next-gen mobile solutions, contactless payments, and widespread use of artificial intelligence. As this emerging technology becomes commonplace, the potential benefit to credit unions is considerable. Our research found many 5G network opportunities, key considerations, and actions credit union leaders should take to maximize the potential benefits to their organizations and their members.



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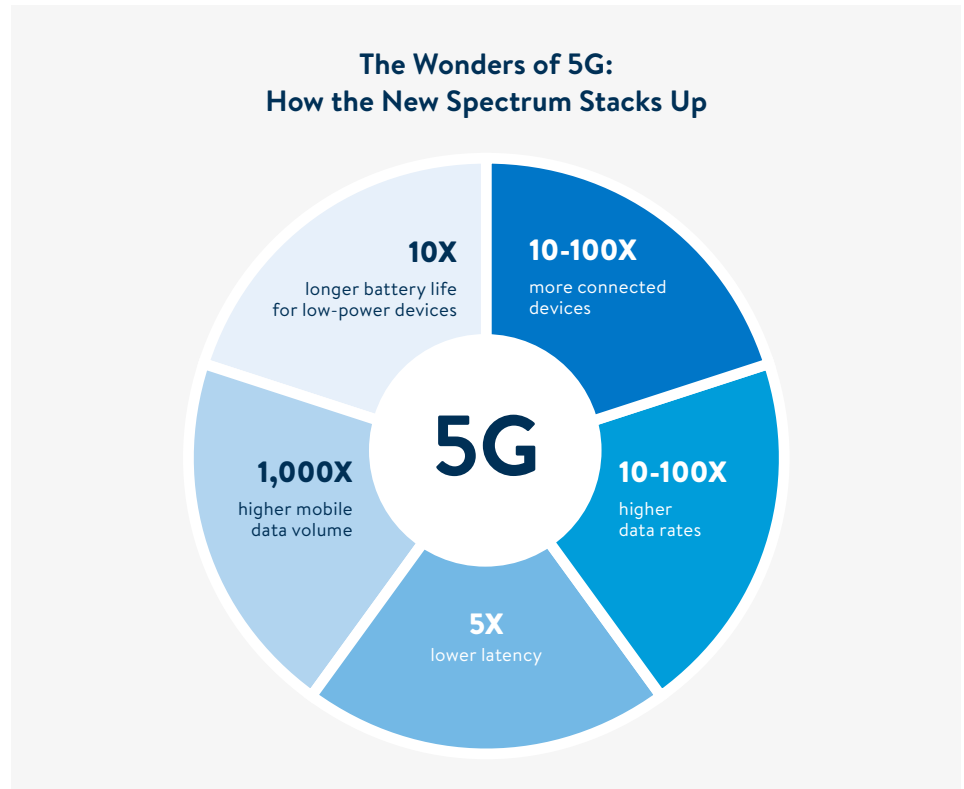
“ 5G and Multi-access Edge Compute (MEC) should provide a near-real-time and realistic customer experience. When we think about having artificial intelligence, and machine learning closer to the consumer, these technologies could make interactions with financial institutions more lifelike and relevant, increase overall customer satisfaction, and enable a whole new level of engagement in the financial services industry.”

SCOTT EASON
Global Vice President, Verizon Enterprise Solutions

ABOUT 5G

5G is a fifth-generation wireless service that has tremendous bandwidth advantages over previous generations. Compared with current network capabilities, 5G can transmit complex data up to 10 times faster² than 4G LTE. For example, it will take mere seconds to download a full-length movie onto a smartphone with a 5G network.

It is expected that 5G will be widely available by 2022. Leading markets currently rolling out 5G networks include Los Angeles, Miami, and New York City.³



Companies like Verizon, AT&T, and Qualcomm have invested billions of dollars⁴ in 5G infrastructure, recognizing the benefits to entire economies, sectors, and societies.

\$13.2
trillion

Enabling a Broad Set of Industries

In 2035, when 5G's full economic benefit should be realized across the globe, a broad range of industries – from retail to education, transportation to entertainment, and everything in between – could produce up to \$13.2 trillion worth of goods and services enabled by 5G mobile technology.

22.3
million jobs

Supporting a Thriving Value Chain

The 5G mobile value chain alone could generate up to \$3.6 trillion in revenue in 2035, and support up to 22.3 million jobs.

\$2.1
trillion

Driving Global GDP Growth

Over time, the total contribution of 5G to real global GDP growth is expected to be equivalent to a country the size of Italy. Italy currently ranks as the eighth largest economy in the world.

² Clare Duffy, "What is 5G? Your questions answered," CNN Business, March 6, 2020.

³ Christian de Looper, "Where is 5G available? Our 5G network map has the details," Digital Trends, May 22, 2020.

⁴ "5G Infrastructure Market to Rise at 76.29% CAGR till 2026; Properties such as Faster Data and Seamless Integration Will Lead to Wider Product Adoption, says Fortune Business Insights," Fortune Business Insights, May 21, 2020.

CREDIT UNION OPPORTUNITIES

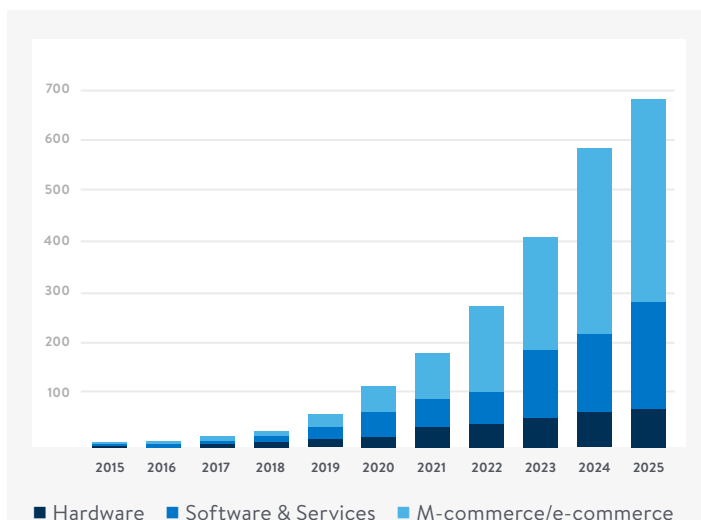
The benefits of 5G for B2C verticals are clear for any organization with a digital presence. Credit unions can leverage 5G networks in a number of ways, such as improving the member experience, enhancing cybersecurity, and powering mobile performance.

1 IMPROVED MEMBER ENGAGEMENT

Credit unions have historically been recognized for strong branch engagement, deep relationships, and providing services that improve members' financial health. 5G will enable credit unions to become more efficient and flexible in how they engage members on platforms, including augmented and virtual reality (AR/VR), chatbots, and robotic process automation (RPA). Credit unions will need to improve digital capabilities, including member service and internal operations. This transformation will subsequently reduce the strain experienced at [overwhelmed call centers](#), reduce operational expenses, and deepen member relationships.

AR/VR

Augmented and virtual reality (AR and VR) will become mainstream⁵ in the coming years, transforming the basic interface from looking down at a screen to looking up at the world around. [Apple](#), [Google](#), and [Amazon](#) are just a few notable companies that have been introducing AR features to their smartphone operating systems and applications in anticipation of 5G networks, and Facebook's acquisition of Oculus VR⁶ will certainly pay off. This revolution emphasizes the need for credit unions to provide remote member sales and support by meeting members where they are on whatever platform they are engaged.



The VR/AR market's potential reveals smartphone adoption and is expected to grow in the coming years.

Source: Gartner, Credit Suisse

Credit unions need to be prepared to leverage AR and VR's capability to streamline member experiences by collaborating with fintech developers prepared for the 5G revolution. Through 5G networks, credit union branches can enhance engagement strategies by reaching out to a wider group of members with virtual assistance, all at a lower operating cost. Advisors and tellers will use AR/VR to discuss product features without the need to schedule in-person meetings, and "virtual branches" will cut down on physical office costs. For example, with the help of [Hyperfair](#), GTE Financial developed⁷ a virtual member experience dedicated to understanding various products and customer support.

Chatbots

Virtual assistants will grow faster and more efficient with 5G. Chatbots, such as [Trim](#), already provide tailored advice and help members optimize their money by shedding expenses and automating savings. The next-generation of chatbots on 5G platforms will leverage geotracking to provide members with real-time opportunities to improve their financial health. [Spending habits could be monitored and members could be nudged](#) into changing their behavior.

Additionally, 5G network speeds allow for remote engagement opportunities and access to members living in hard-to-reach underserved communities. The lower latency offered by 5G can improve text-based chatbots with audio and visual assistance. The new interaction models can connect with more members by introducing capabilities like real-time language translations. Virtual engagement solutions like [Zendesk](#) will allow credit unions to have high-touch relationships with members at much lower operating costs.

⁵ Victoria Petrock, "US Virtual and Augmented Reality Users 2020," eMarketer, April 7, 2020.

⁶ "Facebook to Acquire Oculus," Facebook, March 25, 2014.

⁷ "Welcome to GTE in 3D," GTE Financial, October 20, 2015.

RPA

Robotic Process Automation (RPA) is a technology that automates rules-based processes. A software application or “robot” is programmed to respond to an input and complete repetitive tasks, such as processing a transaction.

As a result of 5G, RPA platforms will expand capabilities to higher-trafficked areas of credit union businesses, such as call

centers. This will have a positive impact on credit unions’ bottom lines, while simultaneously displacing credit union employees (studies⁸ predict that RPA will replace 16% of all jobs by 2025).

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2 ENHANCED SECURITY

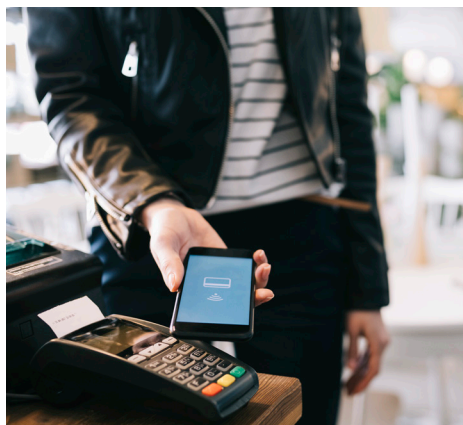
Cyber breaches may be the biggest threat to credit unions and America’s banking industry as a whole. Cybercriminals’ techniques have evolved with technological advancements, and financial services providers are their top targets.

5G is enabling credit unions to detect fraud by improving authentication measures with new biometric security measures and simplifying information processing. AI fraud solutions have already been applied at credit unions to protect members and minimize losses. Online and mobile new member applications and loan originations will spike as 5G emerges, and synthetic fraud will become a greater threat to credit unions. Knowing that mobile banking is already susceptible to cybercriminals⁹, next-generation fraud detection measures need to be in place at credit unions before 5G becomes mainstream. Several technology partners, such as [Coalesce.ai](#), offer credit unions an AI-based solution to combat fraud by quickly analyzing both traditional and non-traditional datapoints to ensure accuracy when engaging members.

With faster connections, fraud detection features will improve as different forms of authentication are incorporated. Better processes can facilitate unique biometric traits like voice and hand geometry, preventing access by unauthorized users and phishing attempts. Currently, financial institutions mostly rely on their own security operations centers and collaborations with security contractors to help monitor accounts. Partners such as [Cygilant](#), [ProfitStars](#), and [Finastra](#) offer multilayered security and intrusion detection platforms that specifically cater to community banks and credit unions.

5G connections improve existing security platforms through additional encryption and user authentication, and a credit union’s investment in cybersecurity with 5G networking will reduce regulatory and operational costs.

3 MOBILE PERFORMANCE AND PAYMENTS



The lower latency 5G provides will make mobile apps smaller in size, allowing credit unions to enhance their features, compete with best-in-class banking apps,¹⁰ and become top-of-wallet for members. Additionally, credit union members will likely experience better overall mobile performance, including P2P and contactless payments.

5G is the tipping point for contactless payments at the point-of-sale. According to Worldpay, mobile payments at the point of sale are expected to reach nearly 30% in 2022, compared with less than 10% today.¹¹ Contactless payments (including “tap-to-pay”) are generating more member interest in mobile and have the security of EMV. The shift in members’ payment preferences will impact credit unions’ card programs as contactless payments become habitual.

⁸ “Automation is here to stay...but what about your workforce?” Deloitte, 2017.

⁹ Steve Salkin, “FBI Alert: Lock Down Mobile Banking Apps.” Credit Union Times, June 16, 2020.

¹⁰ Amber Murakami-Fester, “6 Best Banks and Credit Unions for Mobile Banking.” Nerdwallet, March 11, 2020.

¹¹ Evan Niu, “U.S. Adoption of Mobile Payments Still Lackluster.” The Motley Fool, August 30, 2019.

CONCLUSION

Above all, 5G lays the groundwork for the next digital revolution. 5G should be considered as critical an innovation as the semiconductors that made computer technology viable. As new use cases around AI personalization and mobile payments enter the market, credit unions can benefit from future developments of 5G. Credit unions need to provide 24/7 support to members beyond the reach of a physical branch.

The fundamental power of 5G is the main reason why credit unions should invest in solutions prepared to leverage this technology. While companies develop 5G chips and related infrastructure, credit unions can prepare their operations for expected changes and partner with like-minded companies at the forefront of this connectivity upgrade. By doing so, credit unions will enhance member engagement models, promote greater cybersecurity, and improve mobile performance.

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For additional information, contact Brenton Peck at bpeck@finhealthnetwork.org.



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