

2017 IN REVIEW

This was an exciting year for ORION. In 2017, we embraced our role as champions of Ontario's innovation community while expanding our reach, improving our products and services, and making new investments in our network.

We brought ORION to more communities and institutions than ever before. We are hard at work improving the advanced technology of our network and are moving forward with plans to provide our private, reliable, high-speed connectivity to researchers, educators and innovators in Northern Ontario — including a project bringing 100 gigabit per second access to Thunder Bay and Sudbury. We're determined to bring them and the rest of our community the digital tools they need to make groundbreaking advances: whether it's new ways to care for the [health of premature infants](#), turning libraries into 21st-century community hubs, or enabling students to [explore the world](#) without even leaving their classroom.

And we've continued to remain in touch with innovators across our community, keeping abreast of their needs and desires as we advocate on their behalf and empower them to make Ontario a global leader.

WHAT WE DO

ORION is a not-for-profit organization dedicated to empowering Ontario researchers, educators and innovators. We facilitate groundbreaking discoveries and cutting-edge education by connecting institutions and regions across the province, providing them with the digital tools and expertise they need, and advocating on their behalf.

HOW WE DO IT

ORION seeks to enable and support Ontario innovators in their efforts to make the world a better place.

Acting as a champion for the innovation community, ORION offers the critical infrastructure necessary for collaboration, providing researchers, educators and innovators with the tools and connections they need in order to make pioneering discoveries and provide cutting-edge education.

As a not-for-profit organization, our primary focus is the groundbreaking work of our community — and how we can help make it happen.

Together, we're all partners in making Ontario a global leader in innovation.

A LETTER FROM THE PRESIDENT



This was an important year of growth at ORION, building on our momentum of a transformative 2016. We moved into new offices, giving new life to a historic building by transforming our floor into an open, collaborative workspace; welcomed new directors to our Board; and continued to expand and improve our network and services in order to empower the researchers, educators and innovators who make Ontario — and the world — a better place.

We entered this year with a clear and ambitious set of goals, which I wrote about last year. The ORION team has been hard at work meeting every single one of those targets.

We improved our product offerings and our service delivery. We launched new customer support software in 2017 — part of our ongoing mission to better serve the innovators who rely on ORION to power their work.

We also introduced a shared Chief Information Security Officer (CISO) pilot initiative together with eight higher education institutions in Ontario. The two-year pilot project addresses information privacy and cyber security challenges. We are thrilled by the response the project has already generated; it earned positive media attention and was nominated for a 2017 Canadian Higher Education Information Technology (CANHEIT) award.

We expanded the reach of our digital community. This year, we welcomed even more institutions to our digital community: the Conseil scolaire catholique MonAvenir, McMaster Children's Hospital, CENGN, and the City of Vaughan have joined more than a hundred other institutions who rely on our network every day. Their researchers, educators and innovators are now among more than two million change-makers ORION connects across the province.

We've also been involved in some major government-supported digital infrastructure projects. Our assessment of the digital infrastructure opportunity in Northern Ontario, for example, will be used in support of our efforts to welcome more innovators into our community from remote regions of the province, increasing our diversity while providing equal access to the innovation economy.

We actively engaged with our community. In 2017, we continued to ensure that we were in touch with the changing needs and desires of Ontario's innovation community. We met regularly with our [advisory groups](#); our collaboration with them has inspired the development of a "needs matrix" as well as the launch of several pilot projects that will lead to even more improvements in the years to come.

Meanwhile, we've also continued to meet frequently with our government stakeholders and community partners such as the National Research and Education Network (NREN), Research Data Canada, eCampus Ontario, Compute Ontario, Federation of Ontario Public Libraries, Council of Ontario Universities, and Colleges Ontario.

We renewed our focus on collaboration and advocacy. ORION is passionately committed to serving as a champion for the innovation community in Ontario. This year, when the CRTC announced that many in our community might have to register as internet resellers, we kept our community updated on the status of the initiative and spoke directly to the CRTC to express our community's views. We coordinated with the CRTC and NREN and deadlines were delayed by a year in order to allow enough time for a proper and thorough investigation of the proposed initiative and the impact it will have on the researchers, educators and innovators who drive innovation in Ontario.

Given all our recent success, I know that 2018 will be even better than 2017 as we continue to establish ourselves in our new role and capitalize on the momentum we've already created. I'm excited about the path ORION is on and I'm looking forward to building on our successes as we help Ontario strengthen its position as a global leader in innovation.

Alfonso Licata
President and CEO, ORION

A LETTER FROM THE CHAIR



As the chair of the ORION board, 2017 was an especially gratifying year. It has now been seven years since I took on this role; and while I have decided to step down, I do so confident in the knowledge that Ontario is at the forefront of innovation, and that our organization plays an even more vital role than ever before.

I'm deeply proud of what the ORION team has accomplished since I began my tenure. In that time, we've greatly increased the number of institutions connected by the ORION network, welcomed hundreds of thousands more researchers, educators and innovators into our community, rolled out new tools and services, and expanded the part we play in empowering innovation in the province. And we've done it all more efficiently than ever before.

ORION has become much more than just the advanced network we were originally created to be. We are Ontario's digital community for research and education, trusted partners advocating on behalf of our community, and champions of innovation wherever it's found across our province.

As my time as chair comes to an end, I leave ORION in the best of hands. I'm thrilled to welcome Jim Garner, of the Office of Advancement and Strategy at Upper Canada College, as the new chair of the ORION board. Jim has been a member of the board since 2011 and I'm certain the insights and guidance he brings to the role will serve the organization exceptionally well. I'm entirely confident that he and the rest of the talented and dedicated members of the board will achieve and exceed the ambitious goals we've set for ourselves. I look forward with excitement to the future of innovation in Ontario, and to ORION continuing to lead the way.

Anne Sado
President, George Brown College

ABOUT ORION

ORION is a not-for-profit organization committed to actively supporting Ontario's researchers, educators and innovators. Since 2001, we've facilitated new discoveries and learning by connecting institutions and regions, enabling collaboration, forging partnerships, and providing our community with the digital tools they need.

At ORION, innovation comes first. We're focused on outcomes, not just the bottom line. Whether it's groundbreaking researchers sharing huge amounts of data or students in a classroom using technology to learn, it's all about making Ontario — and the world — a better place.



OUR SERVICES

ORION is more than just a trusted source of affordable access to one of the world's fastest networks.



OUR TEAM

ORION'S employees are hard at work every day empowering Ontario researchers, educators and innovators, supporting them in their efforts to make the world a better place.



BOARD OF DIRECTORS

As Anne Sado's time as chair comes to an end, we welcome Jim Garner, of the Office of Advancement and Strategy at Upper Canada College, as the new chair of the ORION board.



OUR COMMUNITY

ORION brings innovators together. Thanks to our central role in connecting institutions and regions across the province, we're in a unique position to advance the partnerships that empower Ontario's researchers, educators and innovators to solve problems, cooperate on projects, and create value.

As a trusted partner in the innovation community, we're able to effectively advocate on their behalf. And our ability to organize services that can be shared by our community allows Ontario's researchers, educators and innovators to do more for less — accessing the vital digital tools they need at a fantastic value.



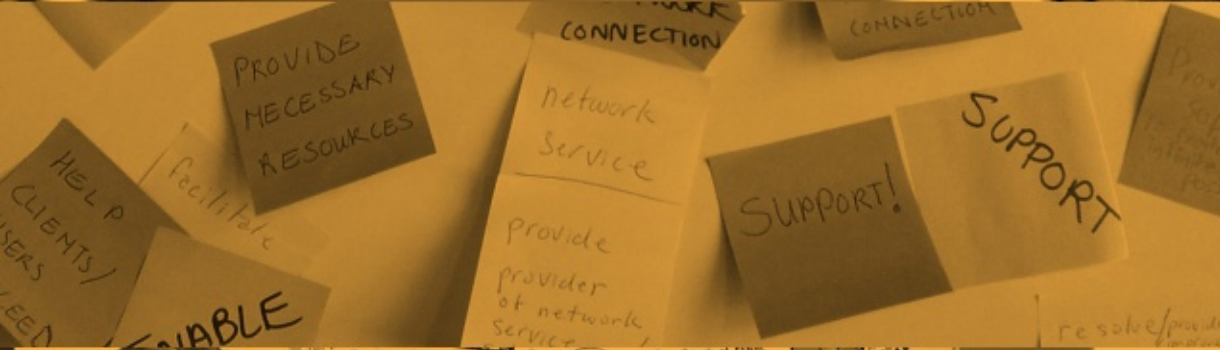
OUR NETWORK

ORION is Ontario's only provincial research and education network. Covering 6,000 kilometres, it connects institutions and regions all over the province.



CONNECTED INSTITUTIONS

ORION connects institutions and regions all over the province, including more than a hundred universities, colleges, hospitals and research institutions, as well as the majority of Ontario's school boards.



ADVISORY GROUPS

By regularly consulting with our Advisory Groups, we're able to ensure that our community's desires are the driving force behind our work, allowing us to effectively advocate on their behalf and tailor our services to their needs.



EVENTS

Every year, ORION is thrilled to attend, speak at, host and sponsor conferences, summits, forums, and other events, giving innovators from across the province the opportunity to share insights and ideas.





A WORLD OF ADVENTURE IN THE CLASSROOM



Michael Leonard
Teacher
Waterloo Catholic District School Board

“The students are in awe... [They can] explore places that were unimaginable before this technology became available to educators.”

It looks like an ordinary classroom. There are chalkboards and posters on the wall; students sit at their desks, ready to learn. But what happens in Michael Leonard’s grade four classroom at St. John’s Catholic Elementary School in the Waterloo Catholic District School Board (WCDSB) is far from ordinary. It’s been transformed into a portal to other worlds.

Today, his students are going on an impossible journey: they’re voyaging through the human respiratory system, travelling through lungs and trachea as if they’ve been shrunk down into tiny explorers. They’re learning about the way the human body works — and gaining a deeper understanding of the negative impact smoking has on it — by exploring it themselves in three dimensions.

Each student is wearing a cardboard viewer to access the Google Expeditions app. It’s a virtual reality teaching tool that allows students to explore the world without leaving their classroom. There are more than 600 expeditions available: students can do everything from visiting historical landmarks like the Roman Coliseum or the Taj Mahal, to swimming with sharks, to exploring outer space.

For them, it’s a powerful new educational experience. “The students are in awe when they enter a Google Expedition,” Leonard explains. “It takes their learning to a deeper level and provides them with the opportunity to experience and explore places that were unimaginable before this technology became available to educators.”

And it’s happening over the ORION network. The WCDSB has been part of the ORION community since 2015, and their schools access the virtual reality Expeditions through our direct connection to Google’s educational tools and content. The service is included as part of [ORION’s network of cloud and software services](#) for Ontario’s researchers, educators and innovators.

This private, curated collection of hosted services provides many benefits for the WCDSB, according to the board’s chief information officer, Chris Demers. “Google is our primary educational cloud environment. High-speed connectivity and availability is imperative. Google Expeditions requires a reliable high-speed connection to provide an effective and immersive virtual learning environment for our students and educators.” ORION provides that connection — and unleashes the potential of virtual reality in the process.

It’s a benefit that promises to become even more important in the future. “We are in the early stages of virtual reality in education,” Leonard believes. “As the cost of this technology becomes more accessible, I can see educators embracing virtual reality as part of their daily lesson plans.”

Demers agrees. “I believe we are not that far away from having the equivalent of a Star Trek holodeck in each of our schools. Tools like the Microsoft HoloLens, Oculus Rift, Google Tilt Brush and the HTC Vive are paving the way for virtual reality and augmented reality to continue to grow in education and demand more and more bandwidth.”

As the use of virtual reality expands, and educators find even more innovative new ways of bringing the world into their classrooms, ORION will be there to empower them with the tools they need, providing inspiring new educational experiences for students across Ontario.



David Porter,
Ed.D.
CEO
eCampusOntario

“Students are always captivated by engaging experiences that are fundamental to deeper learning. Digital innovations – such as virtual reality experiences – provided by access to applications such as Google Expeditions open new worlds of learning to students, encouraging discovery and expanding knowledge in the process. Our schools and libraries benefit from ORION’s commitment to providing increased access and reliable connectivity to high-speed digital networks – bringing a new world of learning and a new world of possibilities to Ontario’s learners.”



SAVING ONTARIO’S MOST VULNERABLE INFANTS

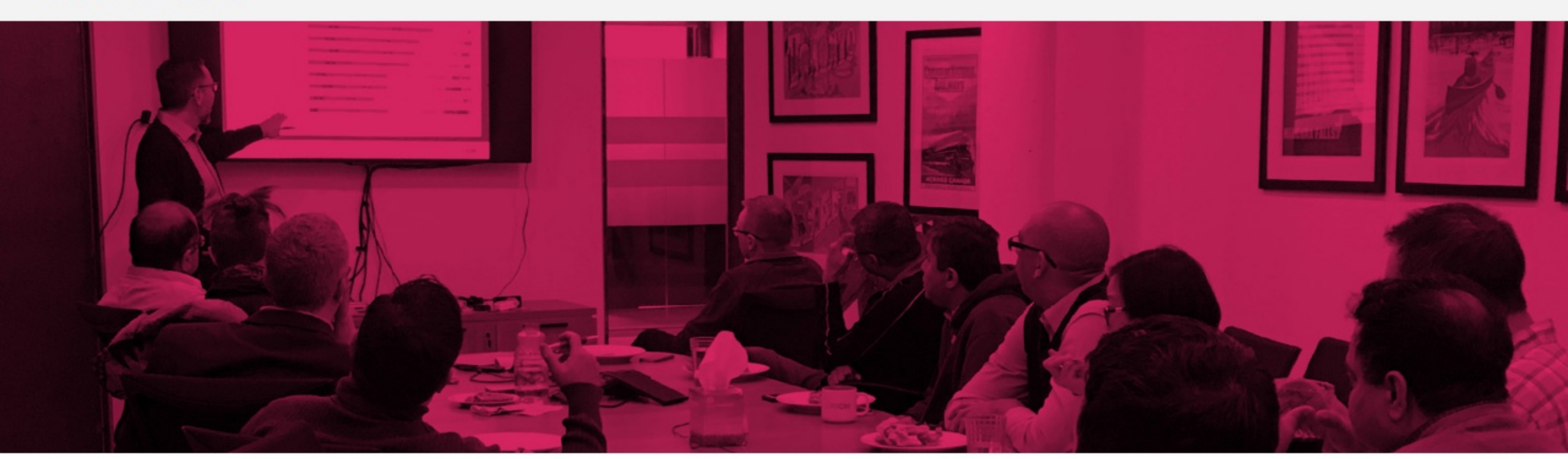
At McMaster Children’s Hospital in Hamilton, a new technology called Artemis could help save the lives of premature infants.



THE LIBRARY REVOLUTION

Public libraries in the City of Vaughan are being transformed into 21st-century community hubs giving all residents access to the latest technologies.





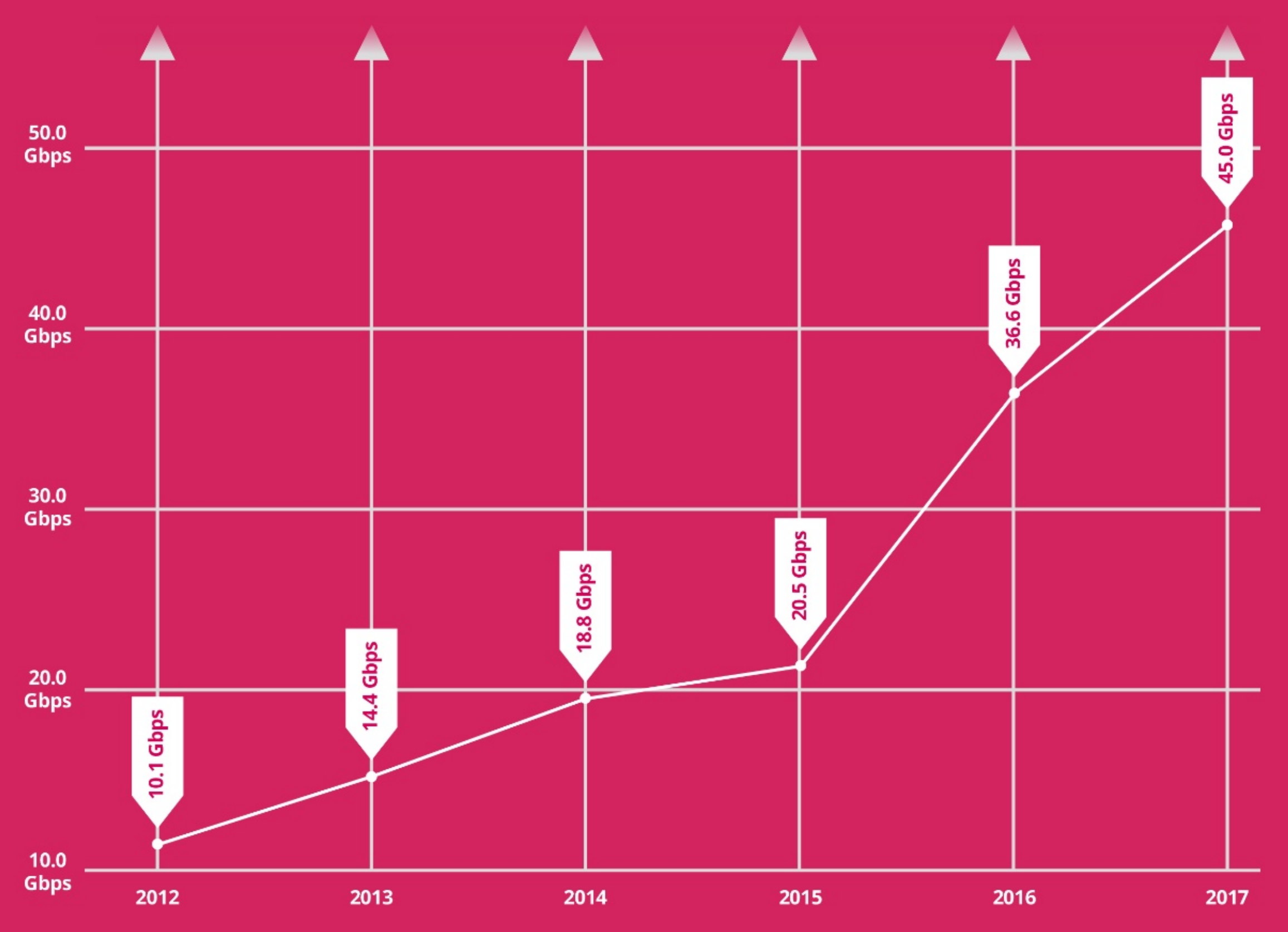
FACTS & FIGURES

ORION continues to grow by leaps and bounds. In 2017, we connected more institutions than ever before, and they utilized more bandwidth on our network than ever before. That means Ontario's innovation community is more powerful and better connected than it's ever been.

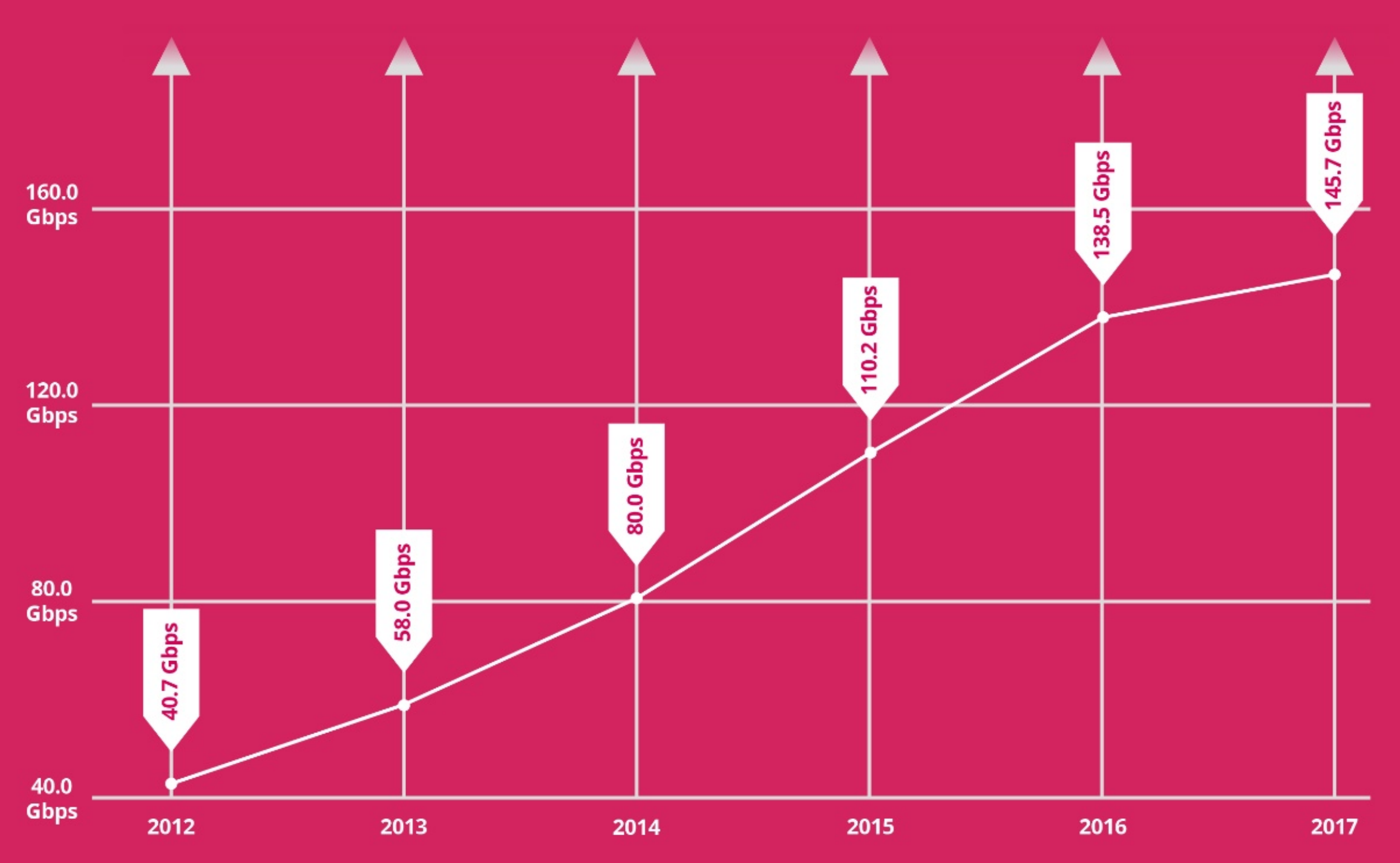
Thanks to that growth, ORION was able to invest more than \$3 million into our network infrastructure, ensuring that our remarkable progress continues, and that we're always on the cutting edge of technology, empowering our community to drive innovation across the province.

ENABLING COLLABORATION

421% Increase In Research & Education Collaboration Bandwidth Since 2012.

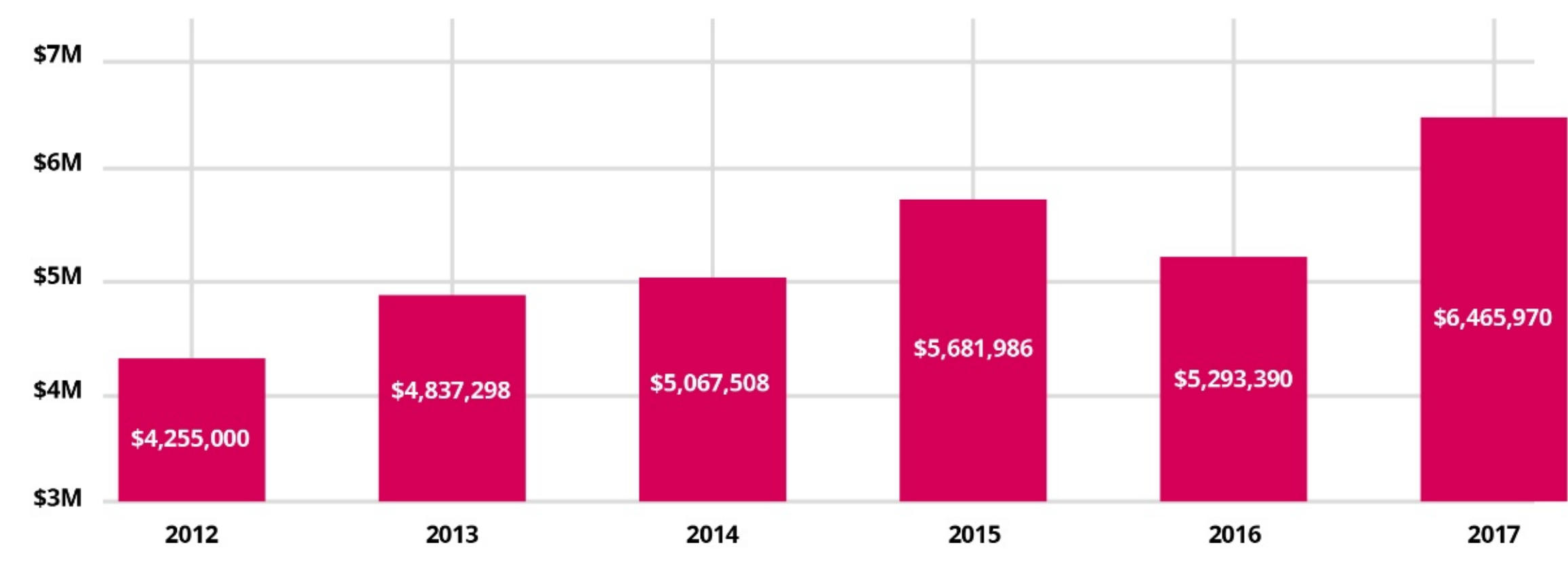


258% Increase In Network Capacity Utilization Since 2012

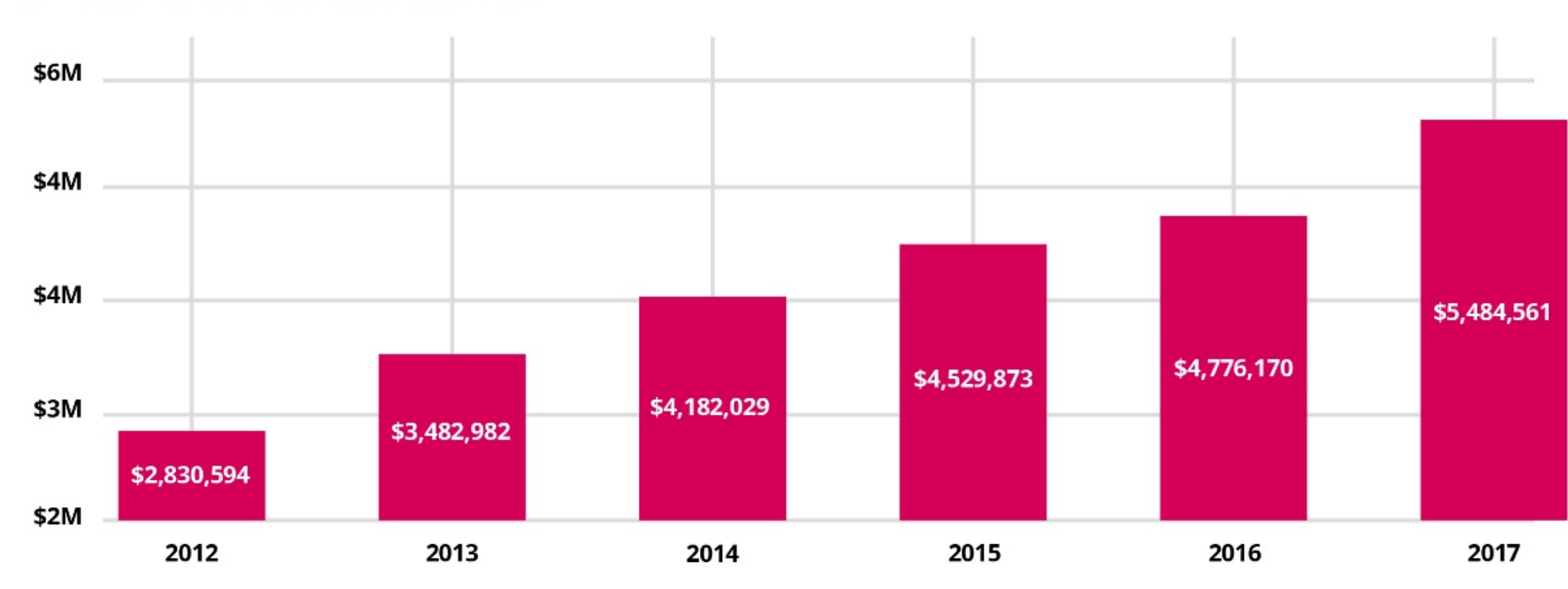


FINANCES

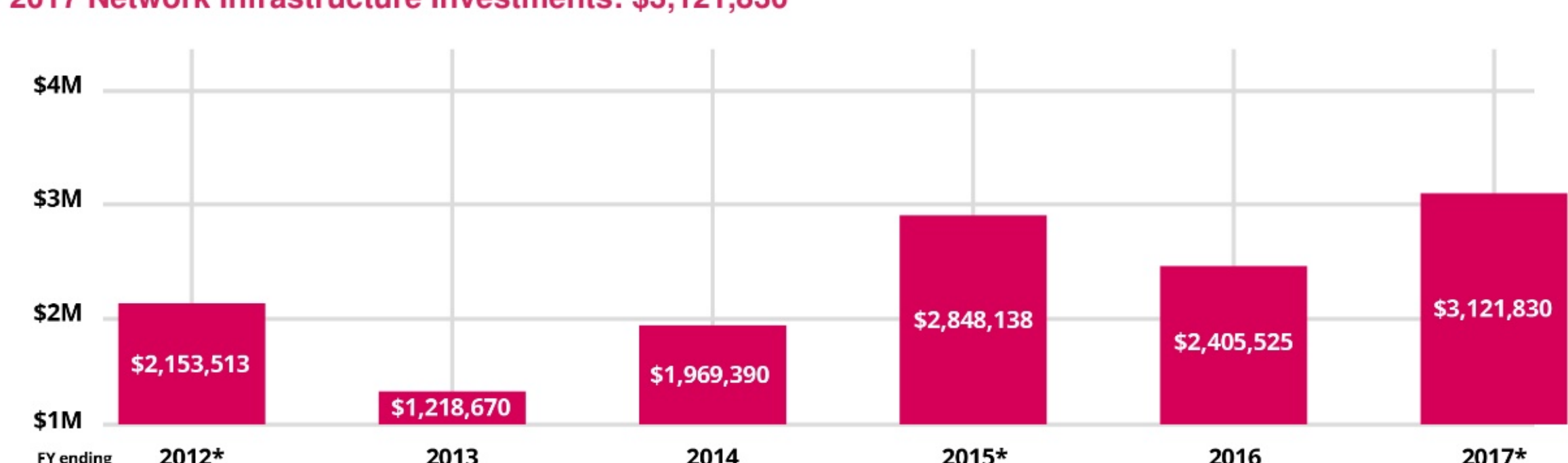
2017 Revenue: \$6,465,970



2017 Operating Expenses: \$5,484,561



2017 Network Infrastructure Investments: \$3,121,830



*Including support from CANARIE

EMPOWERING NORTHERN INNOVATION

THE CHALLENGE

30%
Approximately 30% of Northern Ontario communities don't have access to 5 Mbps service as of 2016

45%
Rural communities pay approximately 45% more for commercial internet access

THE WAY FORWARD

14
Approximately 14 programs have supported broadband connectivity for First Nations communities

300
rural and remote communities to get broadband internet access by 2021 through Connect To Innovate

\$500
million invested in broadband internet access by Connect To Innovate

100
Gigabits per second access coming soon to Thunder Bay and Sudbury

[DOWNLOAD ALL FACTS & FIGURES IN A PRINTABLE PDF](#)