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Nokia and partner LightSpeed Technologies  
bridge the digital divide for Fort Dodge



# The challenge

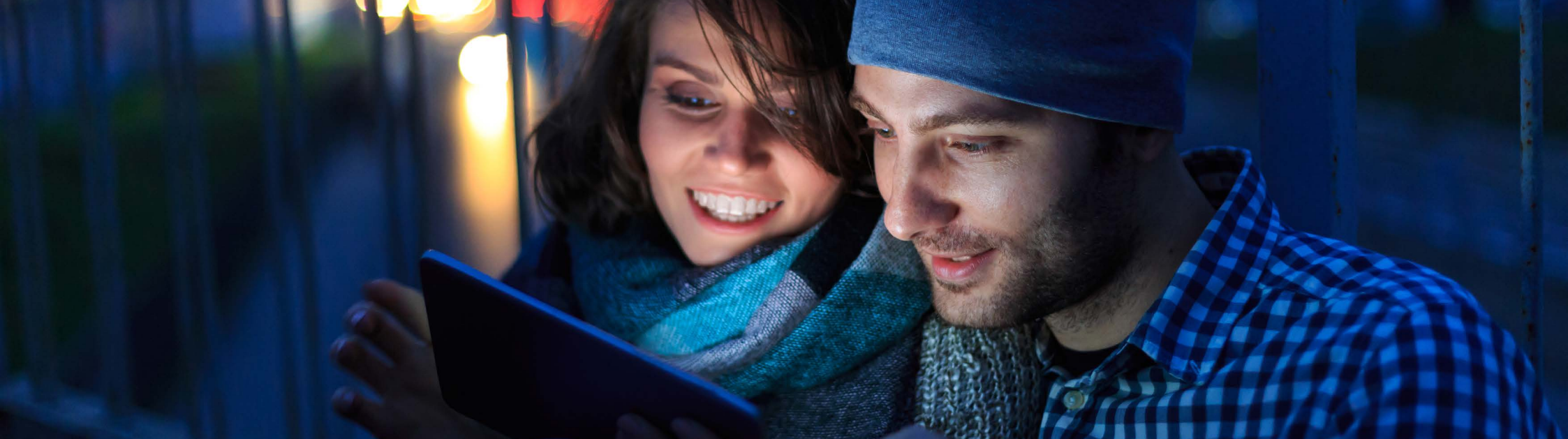


In 2019 the city of Fort Dodge – home to 25,000 residents and a major commercial center in Northwest Iowa – faced a significant challenge. For years, Fort Dodge residents, businesses, and city officials were dissatisfied with the reliability, speed, and cost of the broadband service options available to them.

City officials understood that a lack of affordable access to quality high-speed broadband was putting the community at an economic and societal disadvantage, and they were determined to do something about it.

An engineering team was brought in to analyze the city's current communication technology assets, lead community discussions, and perform high-level architecture designs of the most probable options. After a thorough review, Fort Dodge community leaders made the decision to finance, build, and operate their own fiber-to-the-home (FTTH) broadband network.

# The plan

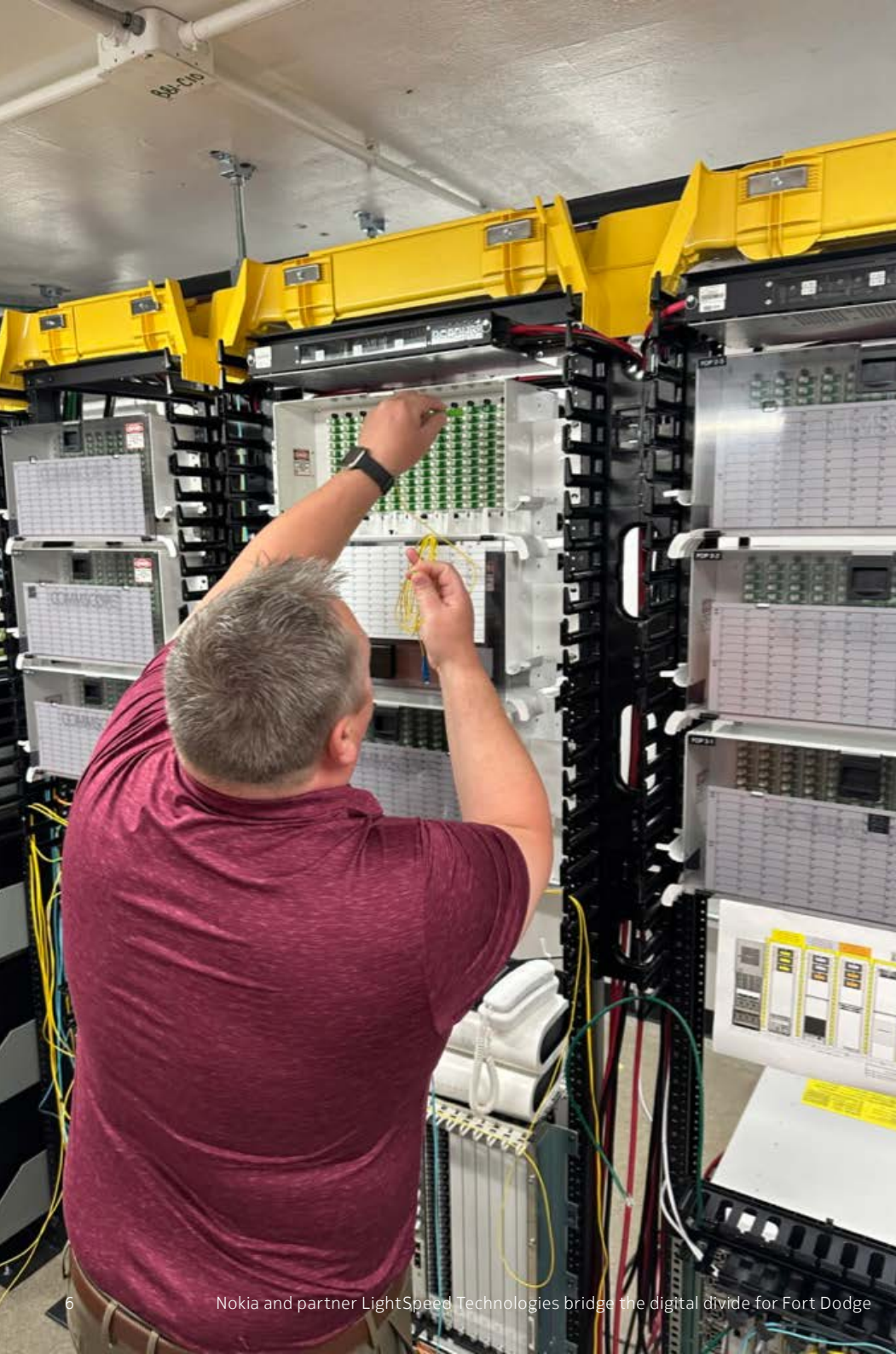


## A plan for world-class, community-based broadband

After securing financing for the project, the city launched a competitive bid process. The RFP specified:

- **A resilient, gigabit-capable passive optical network (PON)**, a proven high-speed, high-bandwidth technology with the scalability and upgradeability to support Fort Dodge's needs for years to come. Having recently experienced a damaging storm event with 100-mph wind gusts that knocked out power, the city wisely chose an underground installation.
- **Mobile backhaul** to provide a high-capacity bridge between wireless cell towers and the fiber optic network.
- **Virtual Private Networks (VPNs)** to support advanced security and privacy.
- **Advanced IP services** to support high-quality voice, data, and video services to residents and businesses.





# A choice of partners based on technology leadership, experience, and value

Fort Dodge solicited bids from three qualified vendors and selected **LightSpeed Technologies, Inc.**, a top Nokia Value-Added Reseller (VAR) in North America, with many years of broadband experience. Nokia network technology solutions were specified due to the company's position as the #1 fiber equipment vendor in North America and the fact that Fort Dodge would be able to offer services over a proven network – in fact, the same

Nokia optical networking broadband equipment that major nationwide carriers were using. LightSpeed and Nokia were also proven industry partners with complementary skills and expertise. These factors, coupled with LightSpeed's networking expertise and track record of successful broadband deployments, made the competitively priced bid a winner.

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**LightSpeed**  
Technologies, Inc.



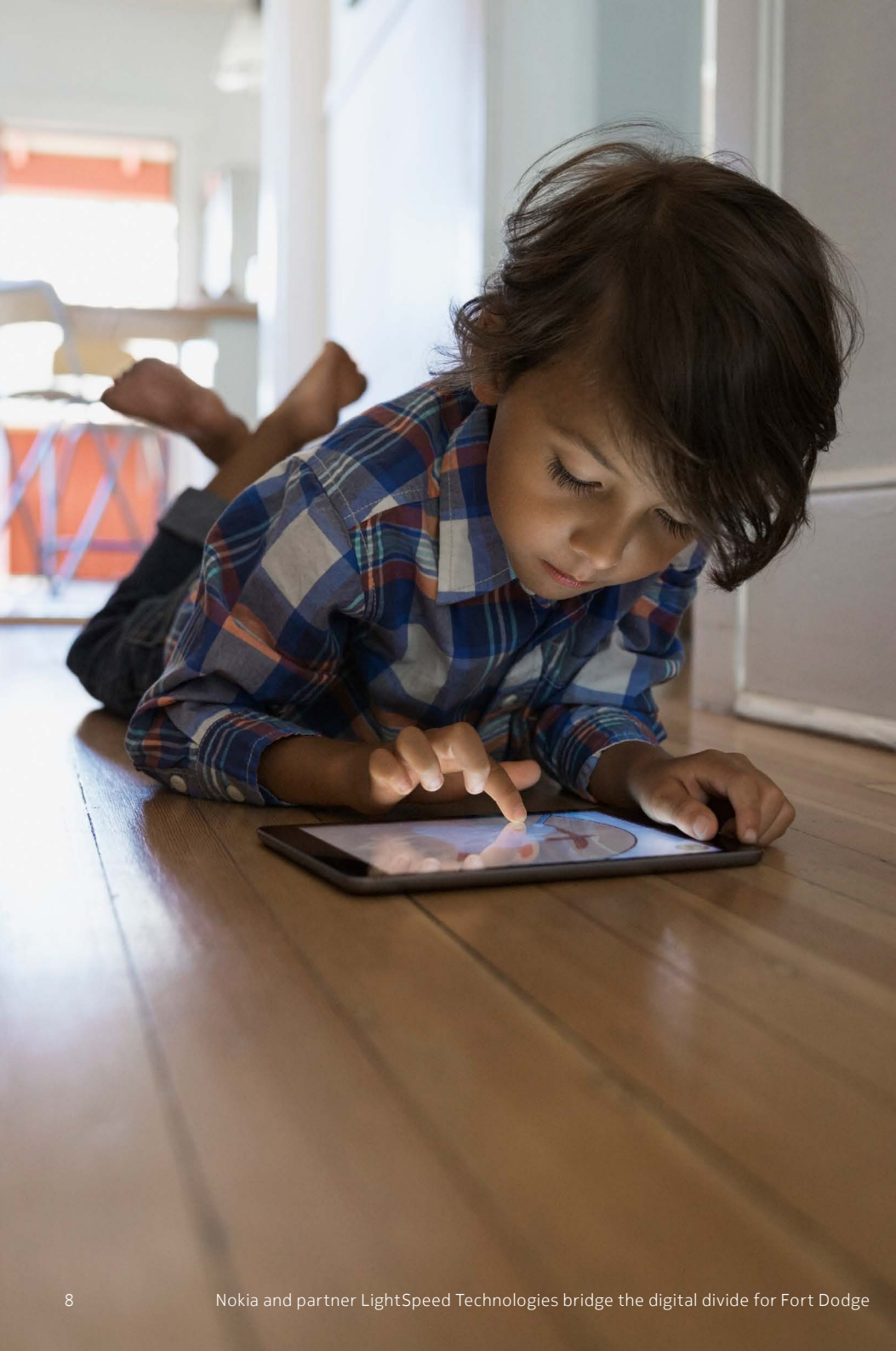
# A construction process with challenges and unexpected benefits

Construction of the broadband network began in 2022 with an expected two-year completion. A challenge that arose early on was coordinating the availability and delivery of equipment with the city's very strict timeline and the allotted financing. Working together, LightSpeed, Nokia, and the engineering team came up with a novel solution. They negotiated an arrangement so that Fort Dodge could purchase equipment with flexible and coordinated terms

and have it delivered directly to LightSpeed's Logistics Center with proper delivery intervals. This not only simplified things and made it more manageable for Fort Dodge, but also saved the city considerable costs. LightSpeed and Nokia worked closely with the Fort Dodge Fiber staff, providing extra support, such as ensuring smooth integration of the fiberoptic broadband services with the billing platform that Fort Dodge wanted to use for its citizens.







# A proven success

The Fort Dodge project has already been deemed a success. The work proceeded on schedule, with Passive Optical Networking (PON) service installed and operating in hundreds of homes and businesses at a take rate more than double the initial expectations.

Fort Dodge customers are enjoying the benefits of 10G PON, which includes symmetrical throughput speeds of up to 10Gbps – a speed 40 times faster than previously available. The solution is also ready for 25G PON, which can be activated in the future when and where needed, ensuring that the city's network investment is future-proof.

The community has embraced and is enjoying the benefits of the new broadband service. With state-of-the-art connectivity in the community, citizens now have access to remote learning, virtual employment opportunities and much more. A count at the end of 2023 showed 5,500 of 11,000 Fort Dodge homes and businesses had already registered for broadband installation, an impressively high 50% take rate only months into deployment.

"We embarked on this project without previous broadband deployment experience, so we required a significant amount of support from our vendors and suppliers," said Jeremy Pearson, Director of Fort Dodge Fiber. "LightSpeed and Nokia have been true partners with us, going above and beyond to ensure our success."

"In addition to the overall success of the project, we were especially pleased with how LightSpeed, Nokia, and the engineering team worked together to tailor the financing, purchasing, and equipment delivery terms to our benefit, which has enabled significant savings on our network investment," said Ryan Maehl, Assistant City Manager for the city of Fort Dodge.

The Fort Dodge PON broadband project is a vivid example of how best-in-class channel partners such as LightSpeed are working in concert with Nokia – putting customer needs first and going above and beyond to bridge the digital divide and ensure success in the community.



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## About LightSpeed Technologies

Founded in 2001, LightSpeed Technologies specializes in helping customers make the transition from legacy to next-generation networking solutions that address the ever-growing need for bandwidth. We have the highest level of Technical Certifications on the full line of Nokia products including Optical (DWDM), IP/MPLS Data Networking (GbE), Microwave Radio and Ultra-Fast Broadband Technologies (FTTX, GPON, pLTE), to support the Utility, Enterprise, Transportation, Service Provider, Public Safety and State, Local & Federal Government market segments.

**LightSpeedT.com**

## About Nokia

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

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