

Broadband and Data Infrastructure

Farm Foundation® Round Table

Property of South Slope Communications Company

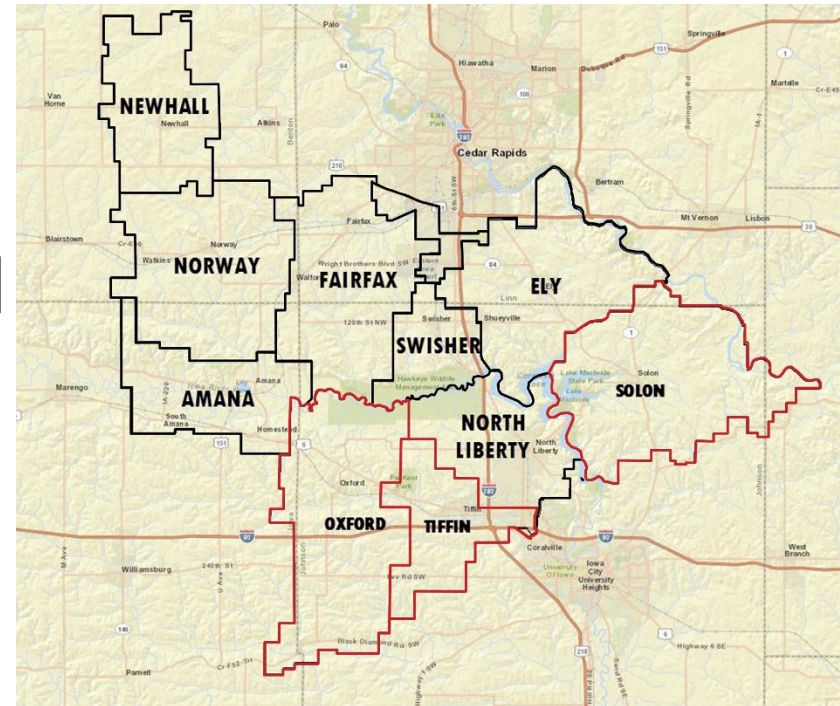
South Slope Cooperative Communications

- Founded in 1958
- Voice, Video, & Internet to 16 communities
- NTCA Smart Rural Community in 2015
- NTCA Certified Gig-Capable Provider in 2016



NTCA Smart Rural Community

- South Slope currently covers 518 square miles
- Continue FTTH overbuild in CLEC territories
- Current investment in ILEC territories exceeds \$74 Million



NTCA Certified Gig-Capable Provider

- South Slope received Gig-Capable Provider status from NTCA in 2016
- Grown from 3 exchanges to 7 exchanges that are Gig-Capable communities



NTCA Certified Gig-Capable Provider

- Smart devices driving bandwidth needs
- Expanding fiber infrastructure
- Funding challenges in our CLEC service areas



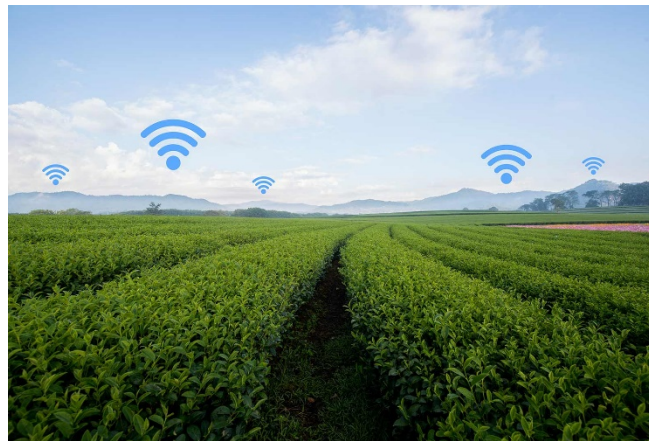
Internet of Things (IoT) in Agriculture

- Global Population is to reach 9.6 billion by 2050
- Smart farming is a system built for monitoring the crop field with the help of sensors
- Smart farming based on IoT technologies will enable growers and farmers to reduce waste and enhance productivity

<https://www.iotforall.com/iot-applications-in-agriculture>

Internet of Things (IoT) in Agriculture

- Smart farming monitor from anywhere
- Machine-to-machine (M2M) communication
- Sensors, RFID, a Wi-Fi or cellular communications link and autonomic computing software



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Internet of Things (IoT) in Agriculture

- Autonomic Computing
- Smart farming will continue to drive the demand for reliable broadband in rural areas
- Network infrastructure will need to continue to evolve to help make real time decisions

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Internet of Things (IoT) in Agriculture

- Smart farming sensors will rely heavily on wireless technologies
- Wi-Fi, 4G, or 5G all run on a fiber network to backhaul user information



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Internet of Things (IoT) in Agriculture

- Building infrastructure for mobile networks
- Fiber and network needed to haul the large amounts of data produced by wireless
- Challenges of building a reliable wired infrastructure needed for smart farming



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Internet of Things (IoT) in Agriculture

- \$30,000 per mile to put fiber infrastructure in to these sites it can become very capital intensive
- High cost for ongoing maintenance of the fiber
- We continue to invest in networking equipment to support large data requirements

Kloubec Koi Farm

- Myron & Ellen Kloubec
- 350,000+ Koi fish operation
- Husband and wife team run the entire operation
- Leverage technology to monitor and sell their fish
- Success is heavily dependent on robust broadband access



Kloubec Koi Farm

- Onsite photography for capturing vibrant colors of the Koi fish
- Uploading photos requires a fiber connection to support the large amounts of upload traffic
- Fiber infrastructure allows them to sell and monitor their fish farm more efficiently



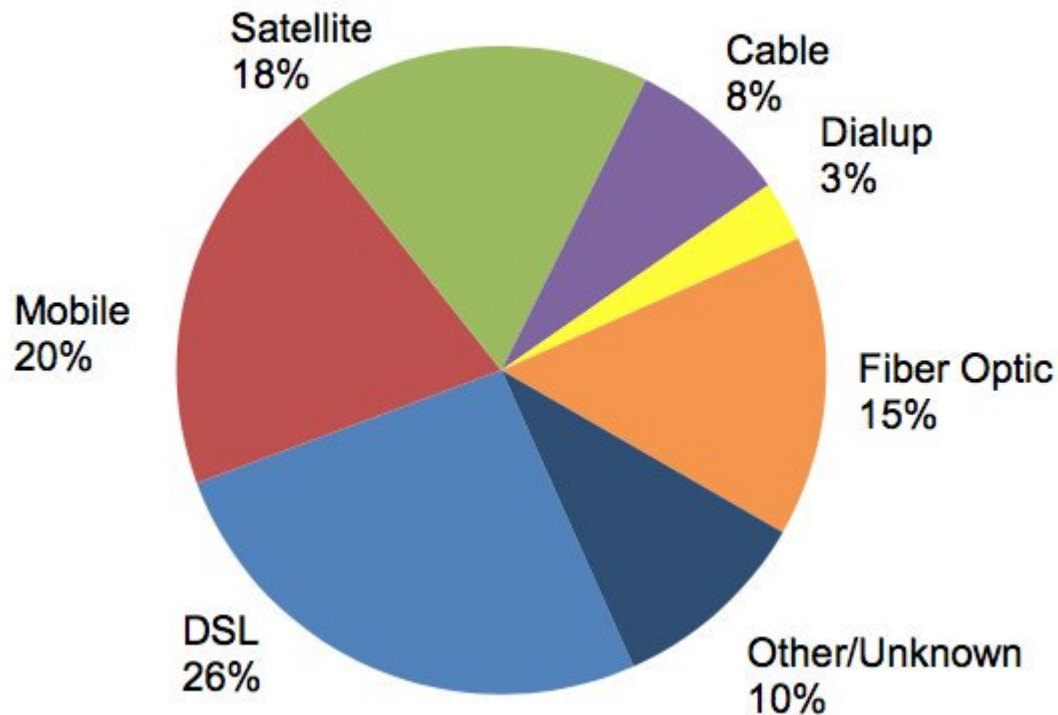
Broadband in Agriculture

- Broadband allows producers to have more family time while still managing their operation
- 52% of farm principle operators have a primary occupation off the farm
- Broadband can lower costs, increase efficiency, provide access to news, trends, & markets



Broadband in Agriculture

Primary Method of Internet Access - Iowa: 2017



<https://twitter.com/FarmPolicy/status/898657614678163459>

Schanbacher Family Dairy Farm

- Merlyn & Brian Schanbacher
- Utilizing Lely milking robots in their operation
- Milk over 100 head of cattle
- The Lely milking machines perform over 120 tests per cow while being milked
- These tests are stored in a database for future analysis



Schanbacher Family Dairy Farm



Property of South Slope Communications Company

Schanbacher Family Dairy Farm

- Information collected per cow used by nutritionist to adjust diets
- Dealer has access to database to troubleshoot and look at performance of the herd
- The Schanbacher's fiber broadband connection allows these things to happen remotely allowing them to be more efficient

Questions?



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