Providing Middle and Last Km Access Over Open Farmland in Dawn-Euphemia Township
Project Problem Statement

A Middle-km Broadband Problem Statement

A technology solution required to provide a cost-effective, self-configuring, high-resilience, high performance solution extending internet access service distances of 10 - 15 km from the broadband POP in a host community. This high performance residential broadband solution across flat expanses of farmland with a limited number of trees.
Selected Service Provider

Headquartered in
Thamesville, Ontario

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<tr>
<th>Key Strengths of MPV Wifi for Residents</th>
<th>Rural Ontario Community Experience</th>
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<tr>
<td>• <strong>Extensive Experience</strong> - installing wireless networks in Rural Ontario</td>
<td>• Already Serving Dawn-Euphemia Township</td>
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<td>• Local Internet Service Provider</td>
<td>• Currently also offers internet access services in Chatham-Kent, Middlesex County, and Elgin County</td>
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<td>• Strong Understanding of Rural and Farming Clients needs</td>
<td>• <strong>Over 40 towers</strong> in MPV Wifi Network</td>
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<td>• <strong>Wide Coverage</strong> of high-quality wireless internet access for the township</td>
<td>• <strong>600 Residential Customers</strong> in Southwestern Ontario</td>
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<td>• Multiple Types of Wireless Services to deal with open spaces or dense tree cover</td>
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<td>• Unlimited Data Plans – No data cap or unexpected overage charges</td>
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<td>• Wide range of Pricing and Capacity Options for internet access services</td>
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Extending Broadband Throughout Dawn-Euphemia Township

Multi-Technology, Multi-Tower Solution

FTTH - Future-Proof Last km Solution
- Cost-limited 4 km buried optical fibre ring

Hybrid FWA Middle km Solution
- 5GHz for high-speed internet services
- 3.65 GHz for better tree penetration

Use Existing Grain Elevators as Towers
- Reduced tower build costs by 80%

Mesh Network and Redundant Backhaul
- High network reliability and resiliency

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Broadband Project Overview

- **New Fibre-Optic Internet Connectivity Throughout the Village of Florence**
  - High-speed Fibre-To-The Home (FTTH) will be available to all homes and businesses in the village

- **New Fibre-Speed Fixed Wireless Internet Connectivity in the Hamlet of Shetland**
  - High-speed internet access services will be available to all homes and businesses in the hamlet

- **New High Speed Fixed Wireless Services for a Wide Area of the Township**
  - Mix of wireless technologies, throughout the township, and FTTH only where it makes sense

- **New High Speed Fixed Wireless Internet Connectivity for those with Dense Tree Cover**
  - Will reduce the need for some residents who currently would require a tower on their property to receive service

- **New 200 Foot Backhaul Telecommunications Tower**
  - Will support more network meshing options in the township due to high height

- **New Wide Selection of Different Internet Access Plans with NO DATA CAP**
  - Can select from selection of throughputs and lower cost options
Overview of New Internet Access for Dawn-Euphemia Township

Over 1000 Residences can be reached in the Township.
Cost & Technology Innovation

Fixed Wireless POP Extension, with FTTH loop in Village of Florence

Significant Middle Km Cost Reduction  Up to $600,000 Cost Saving

✓ No New Distribution Tower Builds - 80% Cost Savings using 4 existing Grain Elevators

Hybrid Backhaul and Distribution Fixed Wireless Technology Innovation

✓ Unlicensed 5GHz and 24GHz Backhaul Links — high bandwidth backhaul with no annual license fees

✓ Unlicensed 60 GHz Last Km Distribution — 100/100 symmetrical, equivalent to fibre, much lower cost

✓ Unlicensed 5 GHz Middle km Distribution — 50/10 high bandwidth service, no annual license fees

✓ Licensed 3.65 GHz Middle km Distribution — Better tree penetration, longer distance, no annual license fees

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## Multiple Installation Efforts Underway in Dawn-Euphemia Township

**New Backhaul Tower**
- **Foundation for New Tower**
  - Completed Sept. 10, 2020
- **Guy Wire Anchor Pad**
  - New Tower Build - End of November 2020

**Village of Florence**
- **Installation of 4 km Optical Fibre Ring**
  - Completion by Mid-November 2020
  - In-service End-November 2020

**Hamlet of Shetland**
- **Installation of 60 GHz Network Installed**
  - In-Service Sept. 21, 2020

**Rest of the Township**
- **Shetland Access**
  - 1283 Shetland Rd, Florence, ON N0P 1R0
- **Florence Access**
  - 6200 Florence Rd, Florence, ON N0P 1R0
- **Cairo Access**
  - 7731 Benpath Line, Richwood, ON N0P 1G0

**Innovative Use of Grain Elevators**
- **Vibratory Trencher**
- **Horizontal Boring**

**Newbury Station Access**
- **Installation of 5 GHz Network Installed**
  - In-Service Aug. 15, 2020

**Installation of 3.65 GHz Network Complete**
- In-Service Mid-November 2020

**Installation of 60 GHz Network Complete**
- In-Service Mid-November 2020

**Installation of 5 GHz Network Installed**
- In-Service Aug. 15, 2020

**Installation of 4 km Optical Fibre Ring**
- Completion by Mid-November 2020
- In-service End-November 2020

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Community Benefits of Project

High-speed Reliable Broadband Internet Services to Underserved Residents
- Fibre to the home access by up to 250 residents
- Fibre-like FWA service to up to 40 residents
- High-speed FWA services to additional 700 residents throughout the township

Future-proof Fibre Access for Florence Residents
- Use of fibre to the home ensures even higher speed services could be offered in the future

Range of High Bandwidth Internet Access Services
- Range of price options, and performance options

Improved Fixed Wireless Options without need for Tower on Customer Premises
- New 3.65GHz service will penetrate tree foliage much better and have longer range

No DATA CAPS!
- No monthly overage charges
- Also supports the higher bandwidth needs of agribusinesses in the township
Overall Impact of the Project

- High-speed Reliable Broadband FTTH Internet Services to Underserved Residents
  - Fibre to the home access by up to 300 residents

- High-speed Reliable Broadband FWA Internet Services to Underserved Residents
  - Wireless access for up to 700 additional residents

- Potential Spin-Off Projects for Dawn-Euphemia Area
  - Many other nearby rural areas could benefit from the design approach used for this township.

- 300% Business Growth for MPV wifi in the Dawn-Euphemia Area
  - Vastly expanded the MPV Wifi coverage area, new backhaul opens up other nearby townships
Contacts for More Information

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THANK YOU!