World's Slimmest 576 Micro Cable

Helping an Asian ISP add capacity without disrupting cities

Leading Philippines based ISP saved 35% by using the world's slimmest micro cable

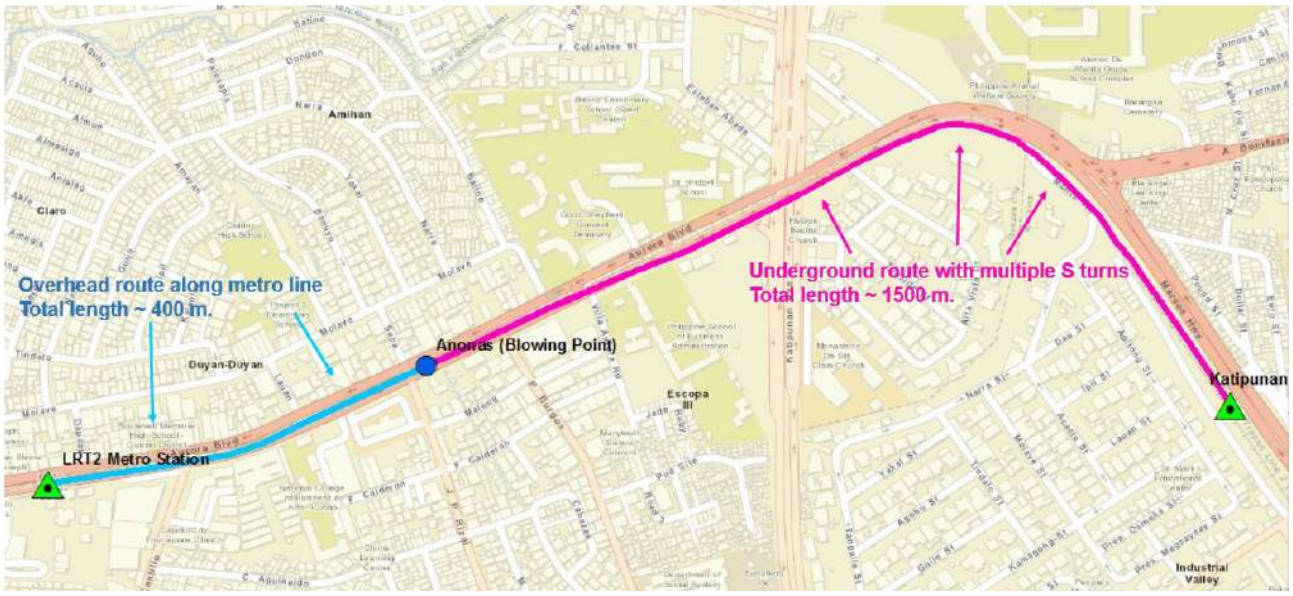
In 2019, the fixed line internet speeds in the Philippines was at a mere 19 mbps when the rest of the world was at 55 mbps. Primary reason behind this was that conventional links were widespread in the country along with fibre links. Wireline (fibre) network's capacity and spread had to be increased and for that, the only solution was drastically increasing fibre density. The ISP essentially needed to do Network Augmentation using a high density optical fibre cable, with quick turnaround, but faced multiple challenges before it could even start the installation.

The challenges

External factors largely affect such a large scale greenfield deployment of optical fibre network:

- Right of way issues for fibre: It takes nearly 8 months to get permits for sites for installation and many a times, it is exorbitantly expensive.
- Aerial deployment, specifically was difficult to deploy due to monopolies on pole attachments.

In addition, there were multiple challenges along the deployment route making a brownfield augmentation project difficult.



From Katipunan to LR2, the distance to be covered by the cable was 2 km. Out of this,1500m was an underground route with multiple S turns till Anonas and the rest 500m from Anonas and LRT2 was an overhead route along the metro line. Both of these routes required different approaches to cable blowing because of different infrastructures.

The solution

To overcome these challenges, STL offered installation of the world's slimmest 576F micro cable with 2x more fibre than a normal loose tube cable. Using a 200 micron fibre brings down the overall diameter to as low as 10.3 mm. The subduct where the cable had to be installed had an inner diameter of 13mm resulting in a duct ratio of 0.79 making blowing easier and faster.

> Get **2x more Fibre** with STL's 576F Micro Cable

Proof of Concept

1. The first step in the installation was surveying the route by the team. The onsite visits showed both underground and elevated routes with multiple S turns. The mid section, Anonas, where the blowing operation took place, was between heavily congested roads on both sides. Both the sections: elevated (500m) and underground (1500m) required different approach to cable blowing.

2. A truck was sufficient to bring in all the equipment required for the installation process including a portable power source, air compressor and blowing machine with high pressure capabilities.

3. At the installation site, a team of 5 consisting of 2 operators and 3 workers were carrying out the operations under the supervision of a team of 2 from STL.

4. Manhole sites at midsection is highly critical, but STL's 576F micro cable found adequate space, the manhole can fit multiple coils (7 way 16/13 mm bundled duct).

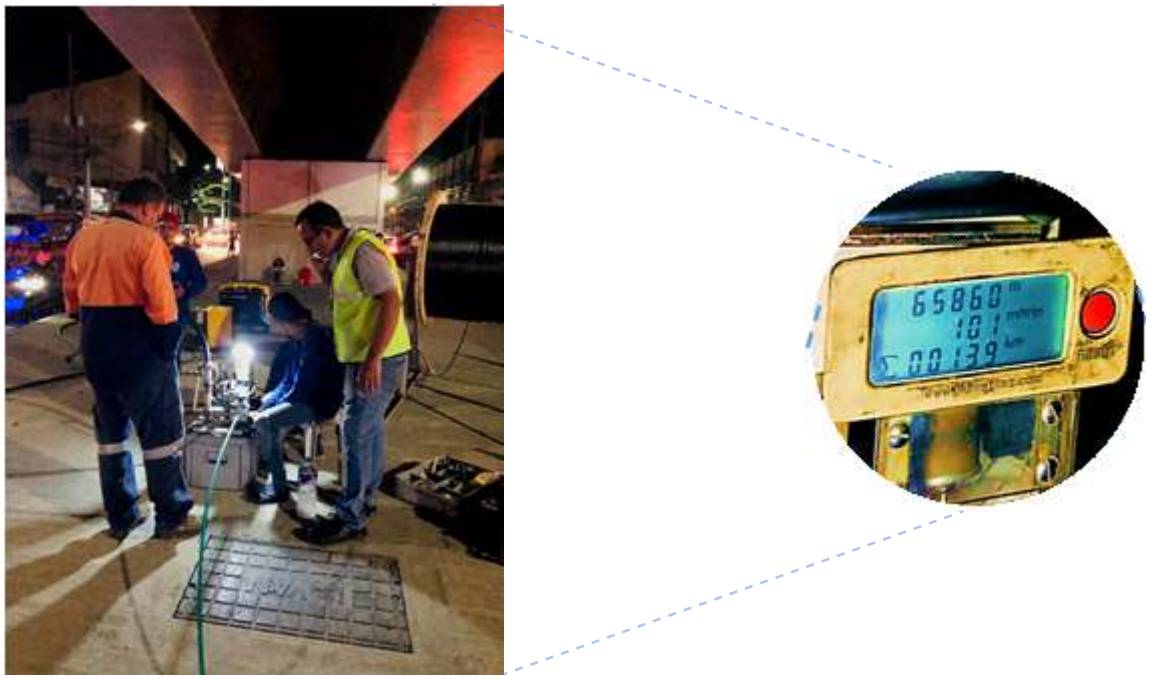
Manhole at Midsection

7 way 16/13 mm bundled duct

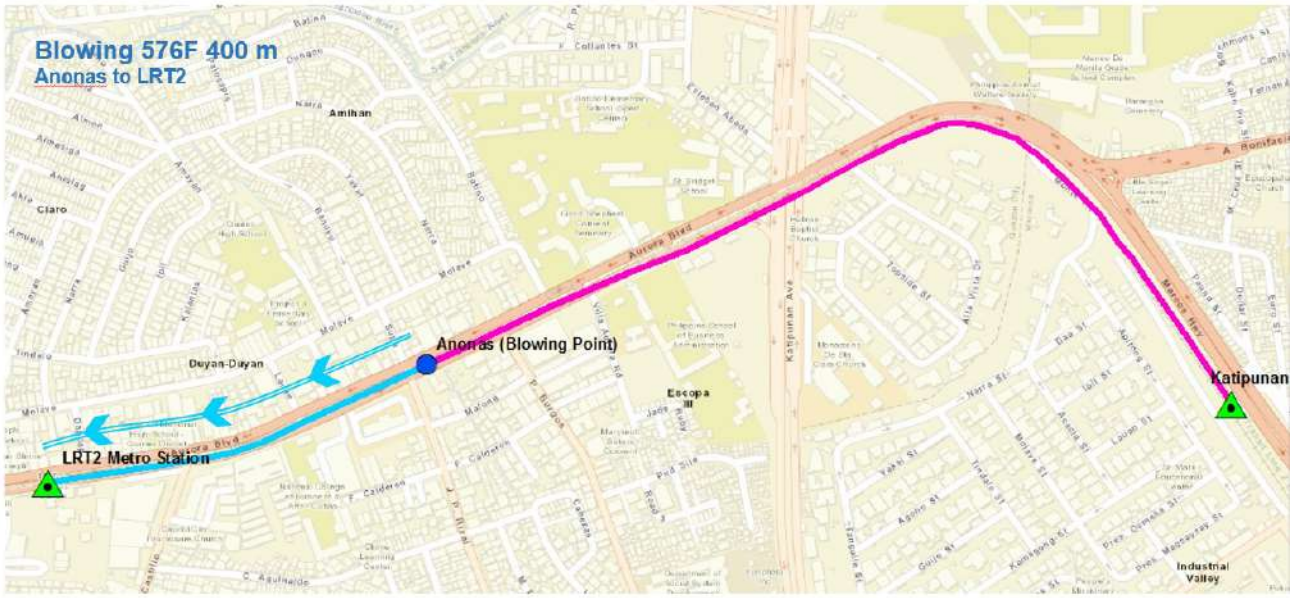
Manhole size is critical

Once the installation began for the underground path till Katipunan, the 576F cable by STL beat industry standards by reaching a blowing speed of 85 m/min even after blowing at 1500 m.

Unique design ensures **higher than average blowing speeds**



5. Anonas to LRT2 was an elevated routed with 10 m (T) elevation, which is challenging in itself, but the cable outperformed these challenges as well.



6. The customer had expectations of a minimum of 3 cables to be installed for a successful POC. STL was able to exceed their expectations with 5 cables being installed as a part of the POC.

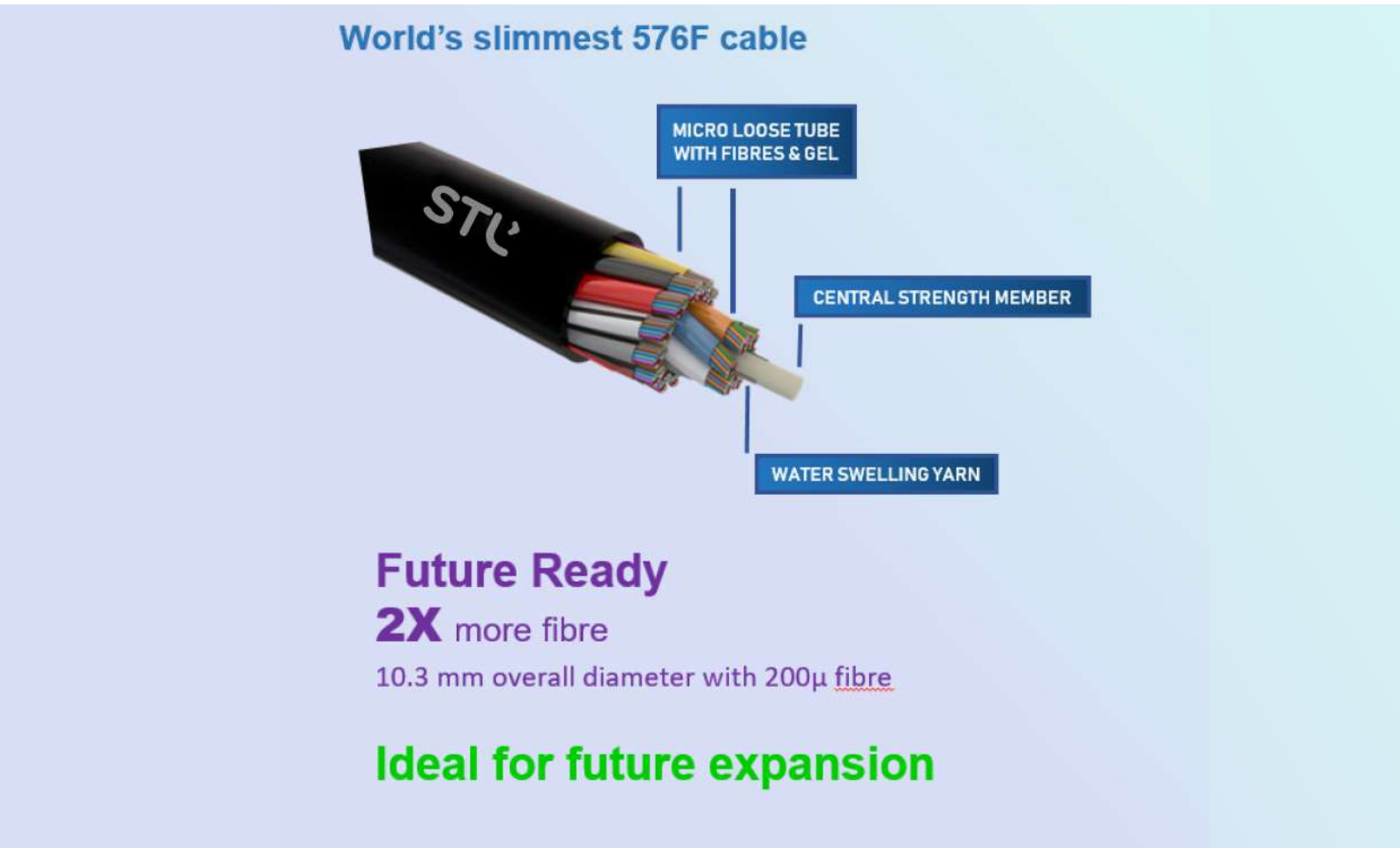
1 Deployed | **2** Deployed | **3** Deployed | **3+1** Deployed | **3+2** Deployed

7. In the end, 2 x 650m length of cable was installed in the aerial route and 3 x 1811m length of cable in the underground ducts.

The Impact

With nearly 60% reel footprint reduction, 67% less loaded reel weight and 40% lower inventory spend, the cable makes a perfect fit for any ISPs connectivity and cabling solution. The 576F micro cable can provide cost savings to an CSP/ ISP to an extent of 35% in a timeline of 10 years*

**Basis Philippines labor & market rates/ situation*



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STL is a global leader in end-to-end data network solutions.

We design and deploy high-capacity converged Fibre and wireless networks. With expertise ranging from optical Fibre and cables, hyper-scale network design, and deployment and network software, we are the industry's leading integrated solutions provider for global data networks. We partner with global telecom companies, cloud companies, citizen networks and large enterprises to design, build and manage such cloud-native software-defined networks.

STL has innovation at its core. With intense focus on end-to-end network solutions development, we conduct fundamental research in next-generation network applications at our Centres of Excellence. STL has strong global presence with next-gen optical preform, Fibre and cable manufacturing facilities in India, Italy, China and Brazil and two software-development centres.

Mobility Solutions | Access Solutions | Core Network Solutions | Network Modernization | Data Centre Solutions