
MTA
Genius
Transit
Challenge

MTA Genius Transit Challenge

CHALLENGE 3

Communications

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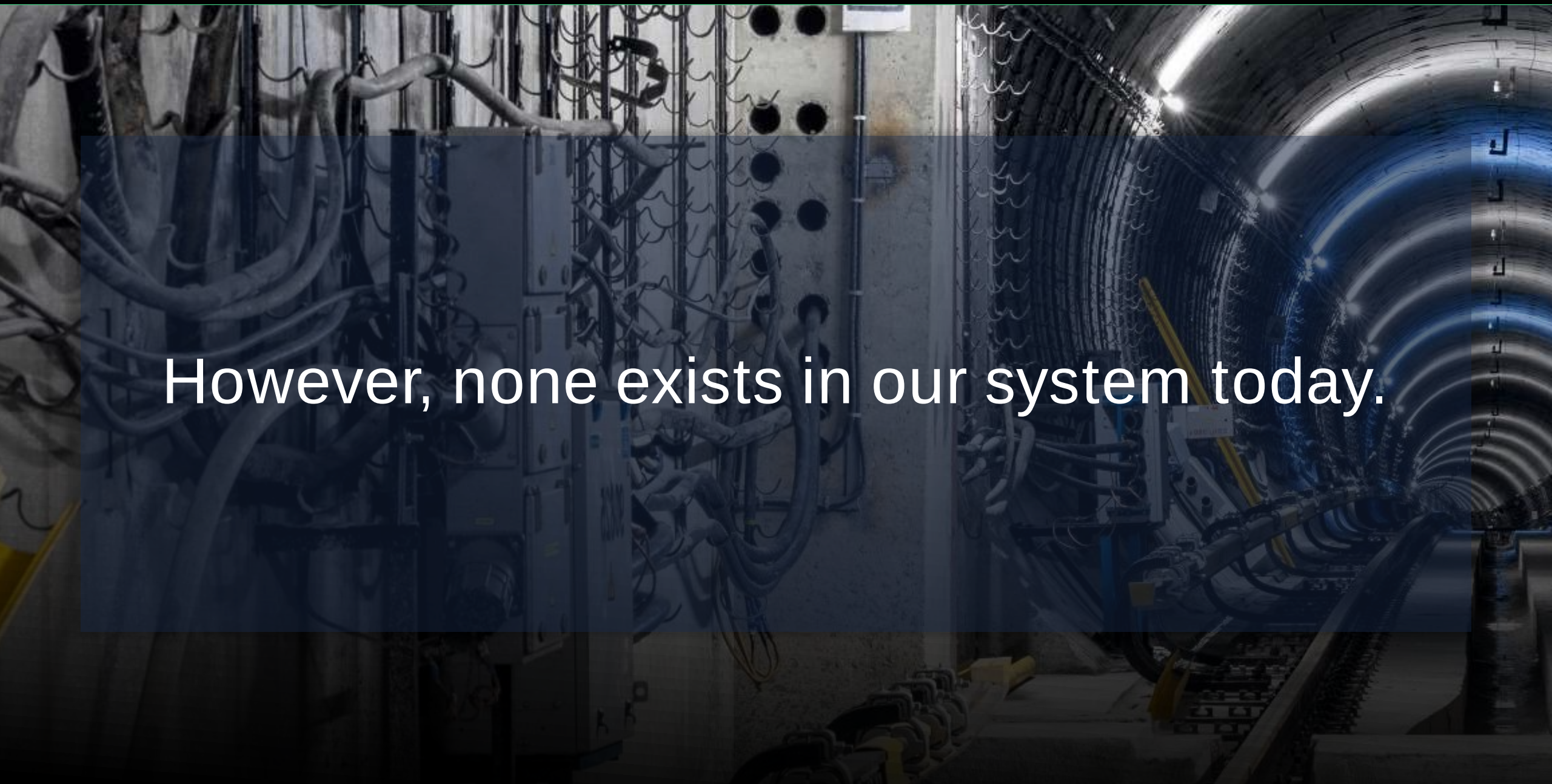
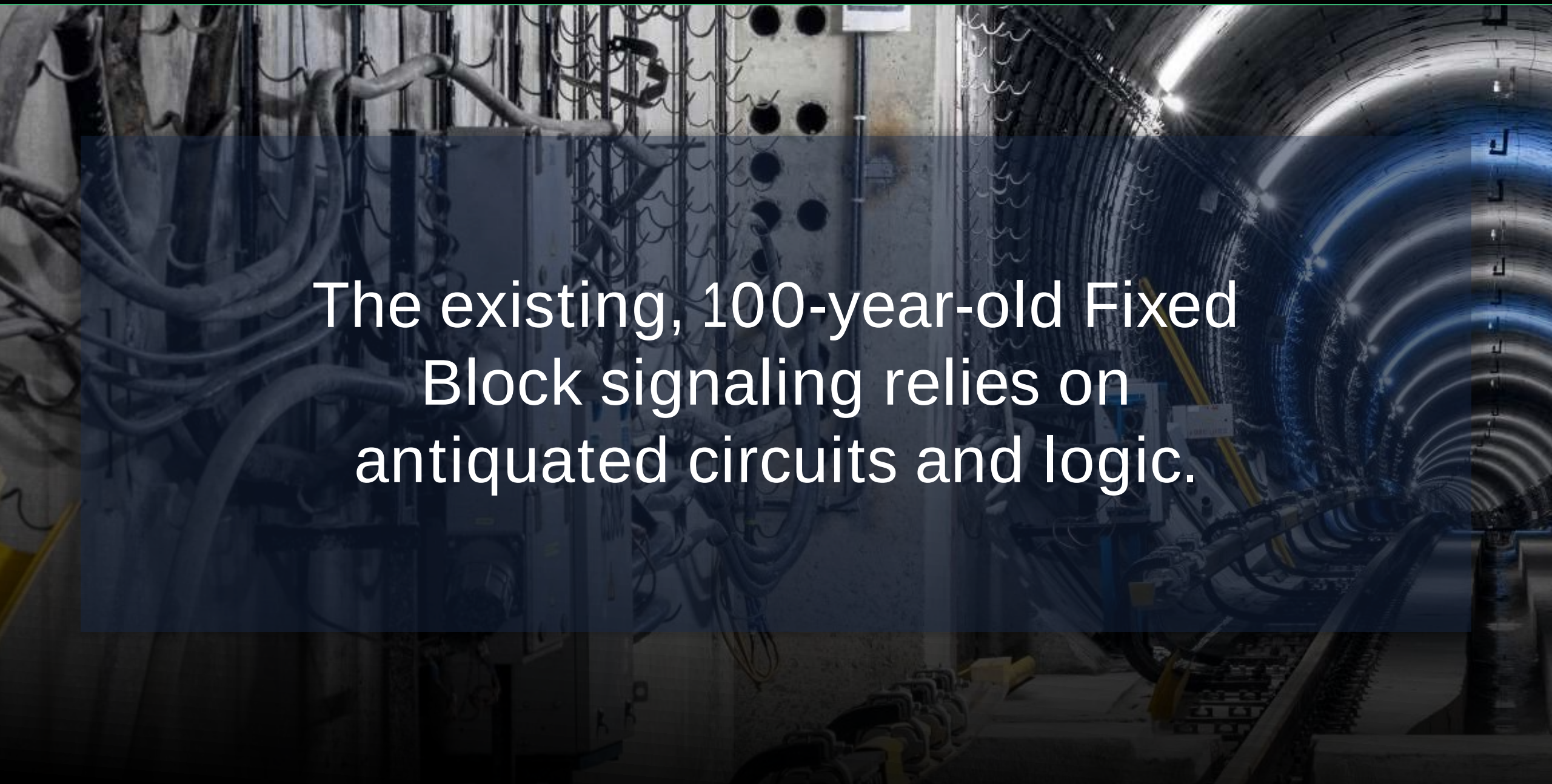
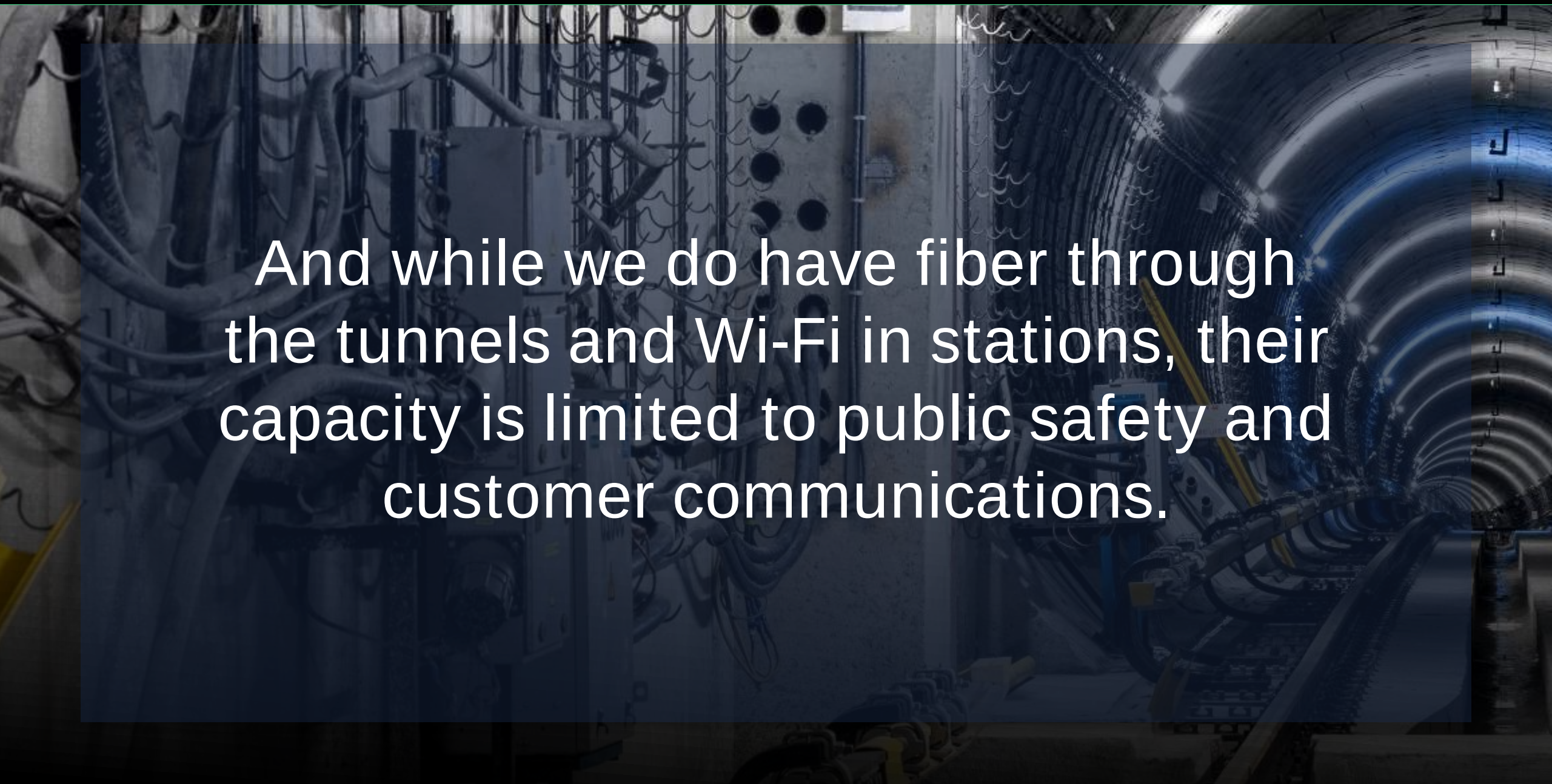
The new signaling system and its refurbished car fleet need to be supported by a state-of-the-art, reliable communications network.



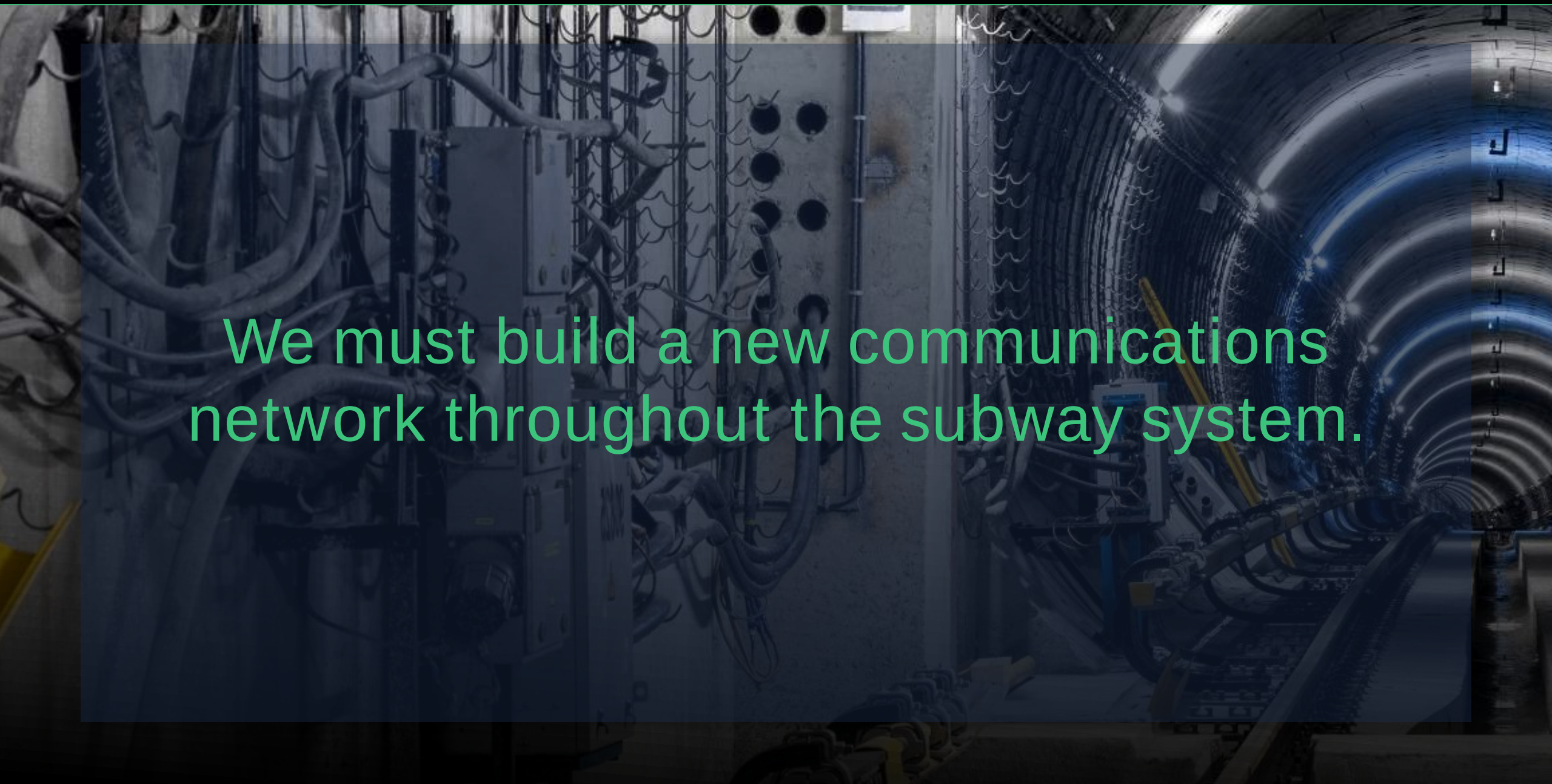
However, none exists in our system today.



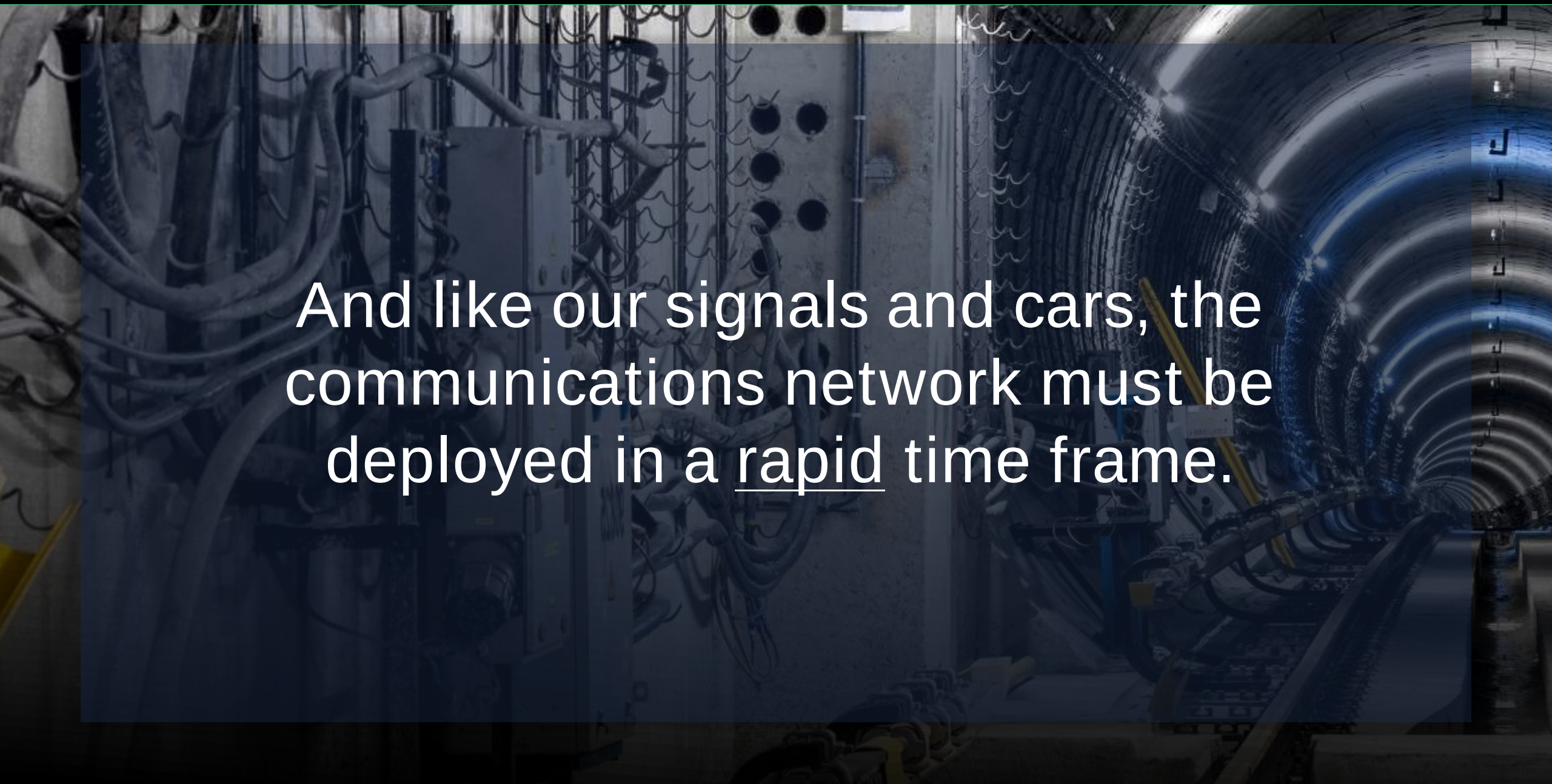
The existing, 100-year-old Fixed Block signaling relies on antiquated circuits and logic.



And while we do have fiber through the tunnels and Wi-Fi in stations, their capacity is limited to public safety and customer communications.



We must build a new communications network throughout the subway system.



And like our signals and cars, the communications network must be deployed in a rapid time frame.

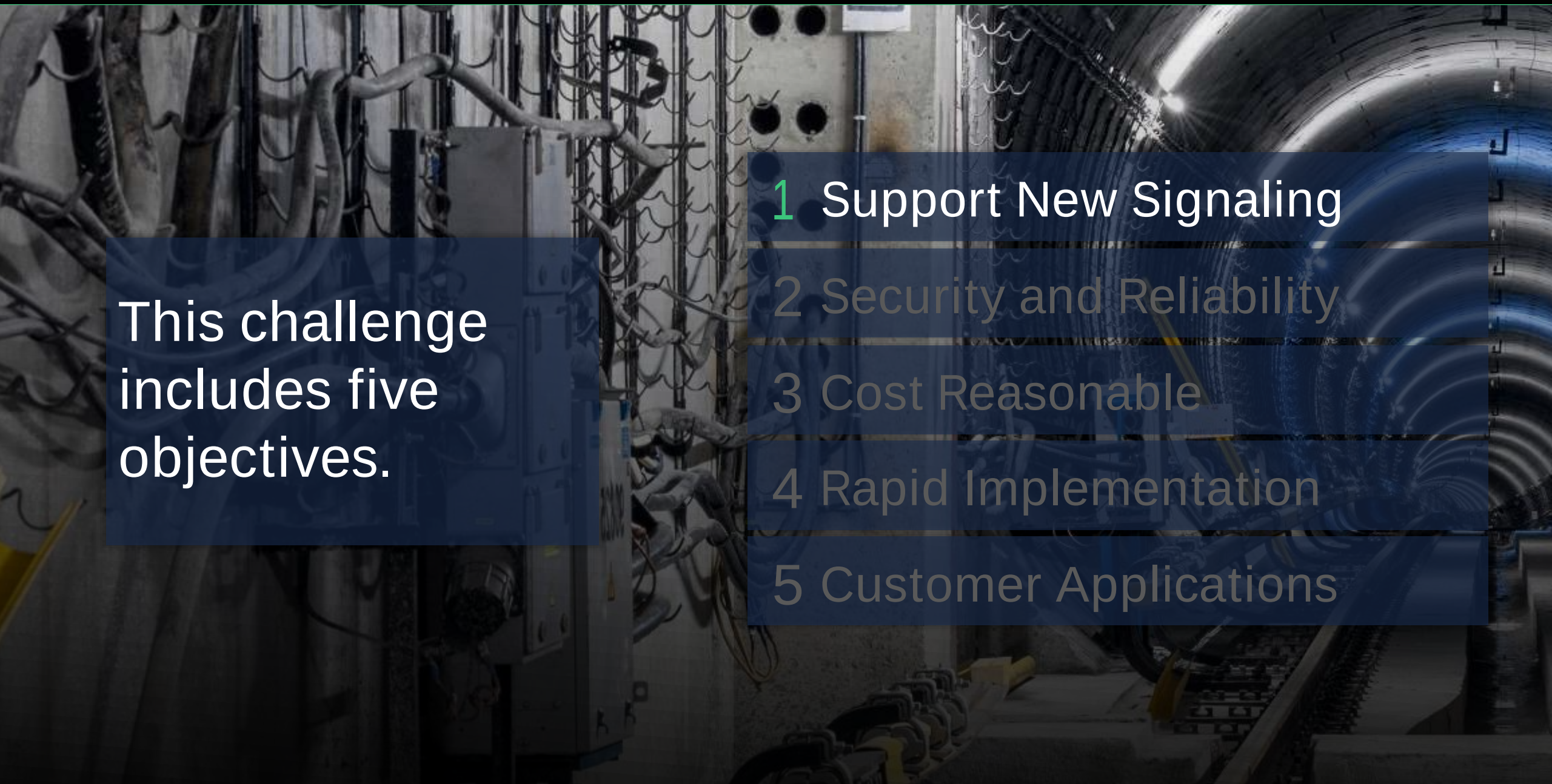
The technology will serve a dual purpose.

It will enable data transfer for our new signaling. All modern train control systems rely on a communication system.

At the same time, people becoming more reliant on their personal devices – so ideally it also supports customer applications.

This challenge includes five objectives.

1. Support New Signaling
2. Security and Reliability
3. Cost Reasonable
4. Rapid Implementation
5. Customer Applications



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SUPPORT THE SIGNALING SYSTEM

While we do not yet know the new signal system, the communications technology must be capable of supporting a signaling system trackside, in subway cars and at stations.

SUPPORT THE SIGNALING SYSTEM

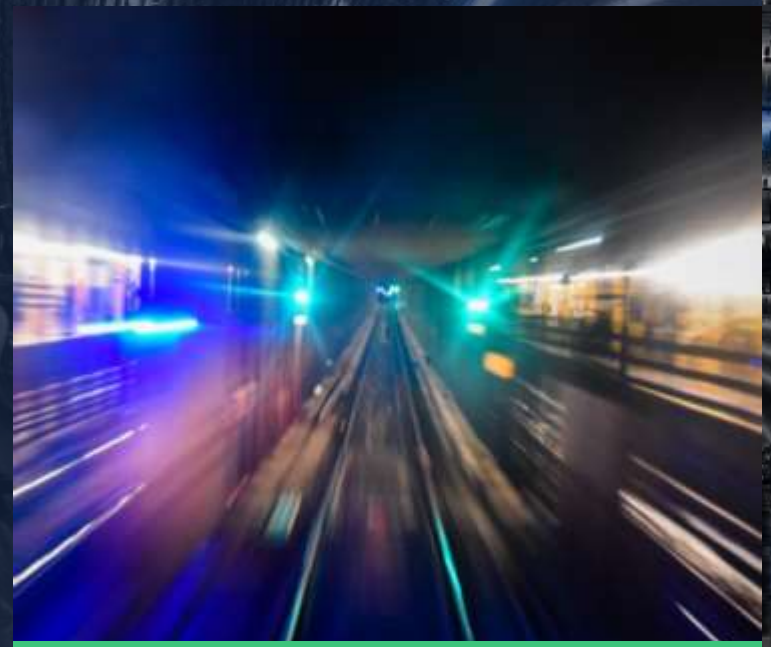
The solution can be wireless or hard-wired, and should be able to transfer encrypted data at a high rate.

SUPPORT THE SIGNALING SYSTEM

The technology must work:

AROUND SOLID CONCRETE WALLS

AROUND SHARP TURNS AND CURVES



AMONG ONCOMING TRAINS

SUPPORT THE SIGNALING SYSTEM

Additionally, tunnel space is limited to add cable, antennas or other equipment.

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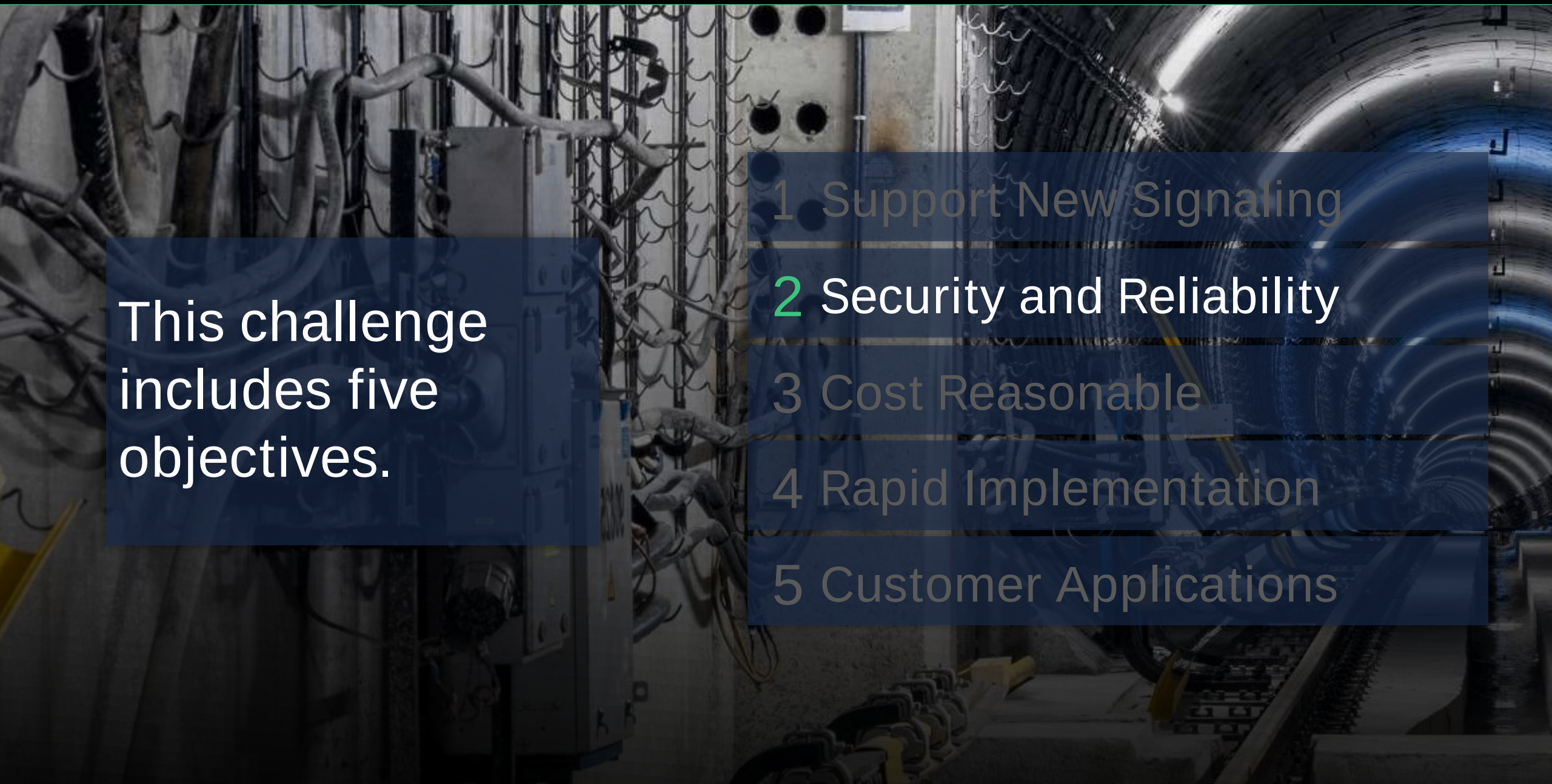

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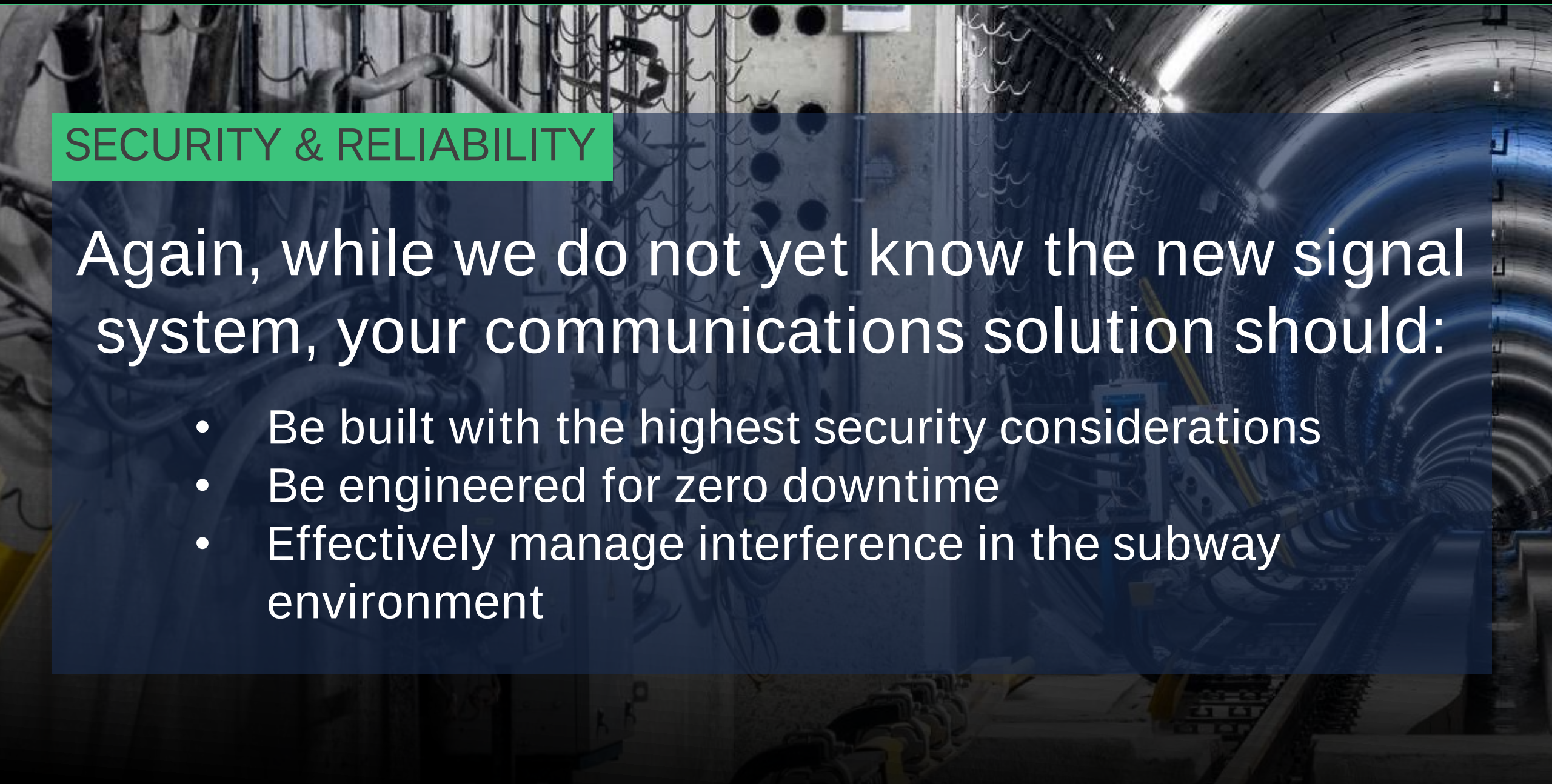

SECURITY & RELIABILITY

Again, while we do not yet know the new signal system, your communications solution should:

- Be built with the highest security considerations
- Be engineered for zero downtime
- Effectively manage interference in the subway environment

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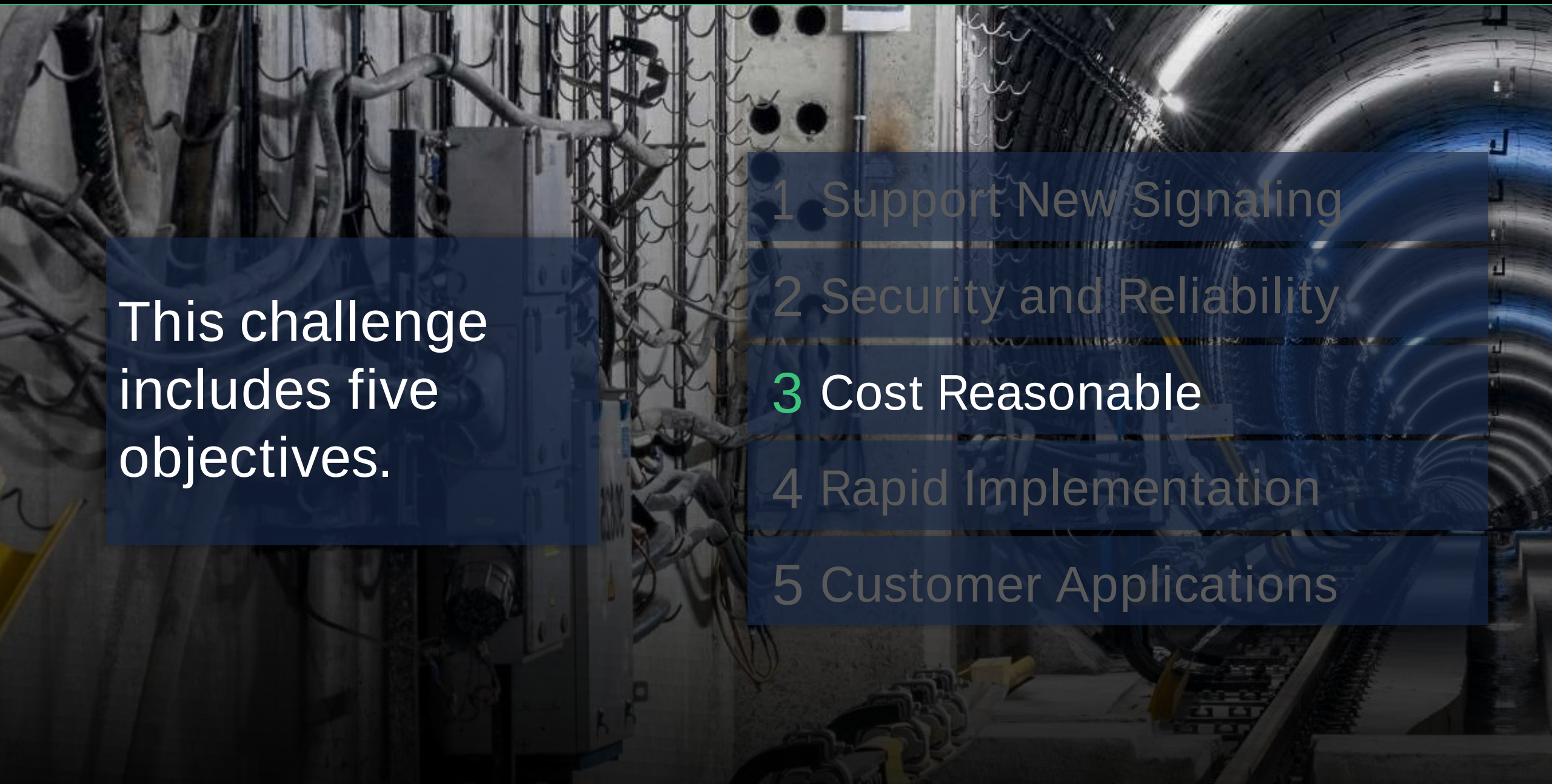

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1 Support New Signaling

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COST REASONABLE

Installation and maintenance of the communications system must be cost-reasonable.

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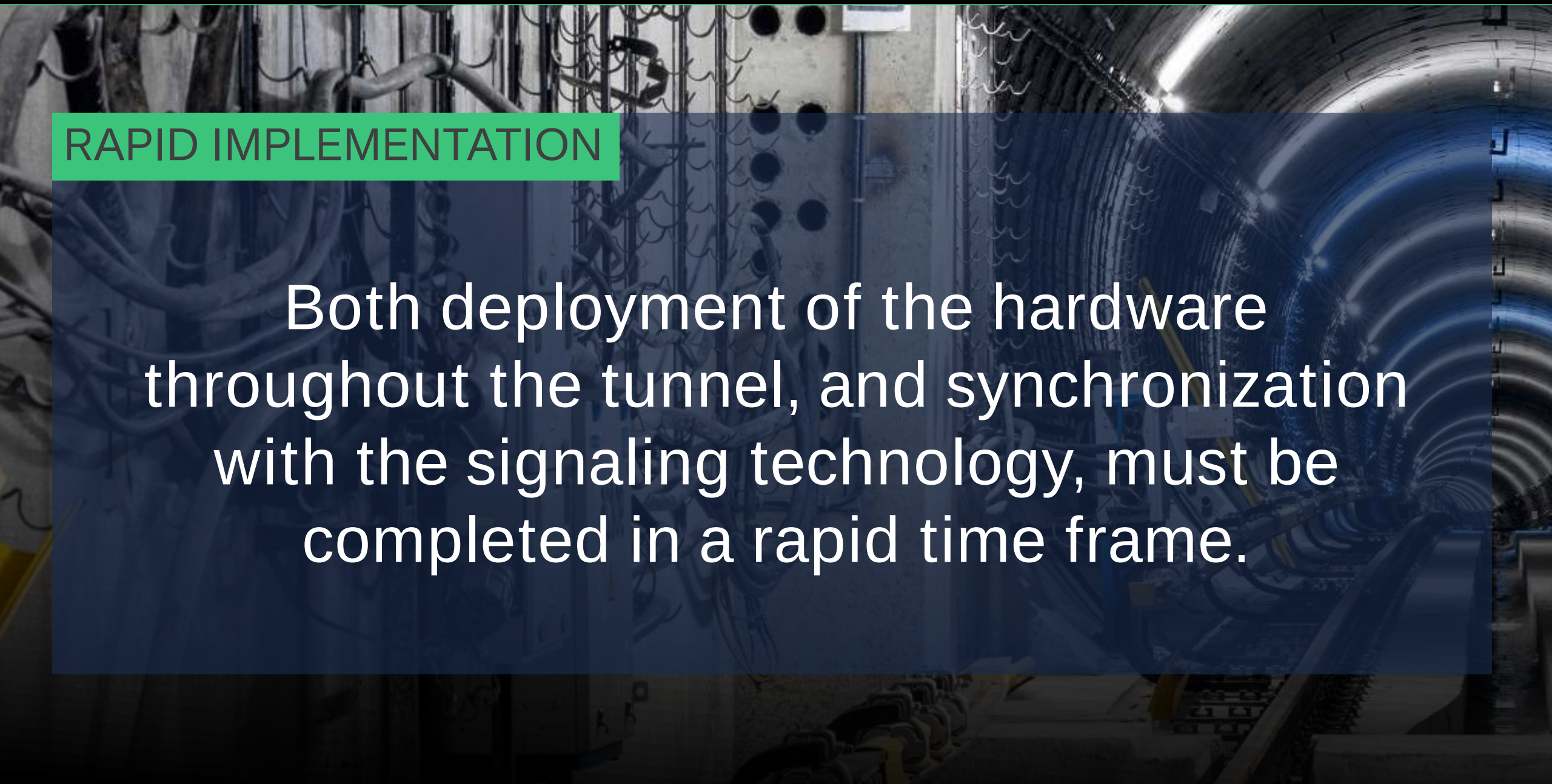

RAPID IMPLEMENTATION

Both deployment of the hardware throughout the tunnel, and synchronization with the signaling technology, must be completed in a rapid time frame.

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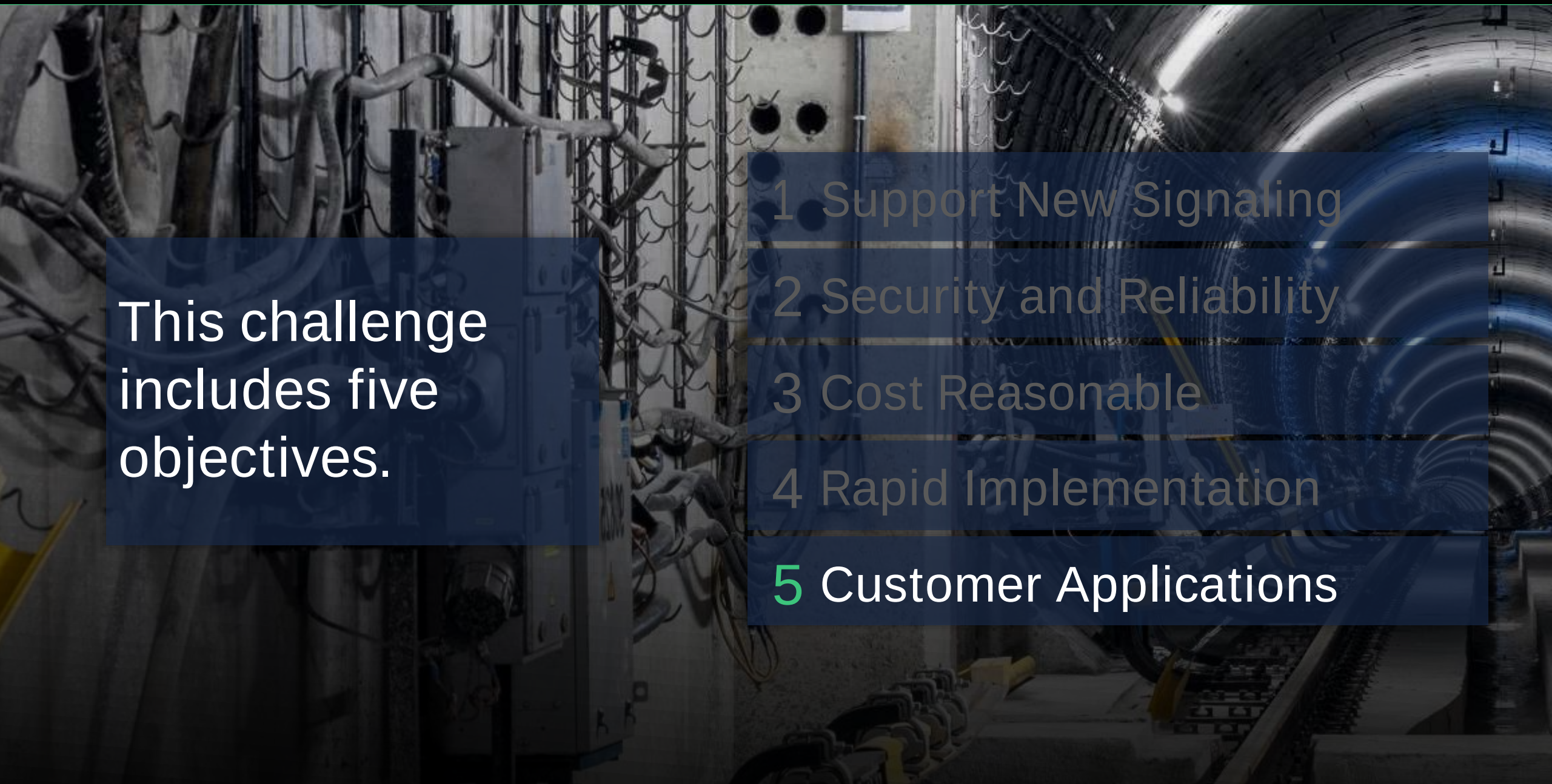

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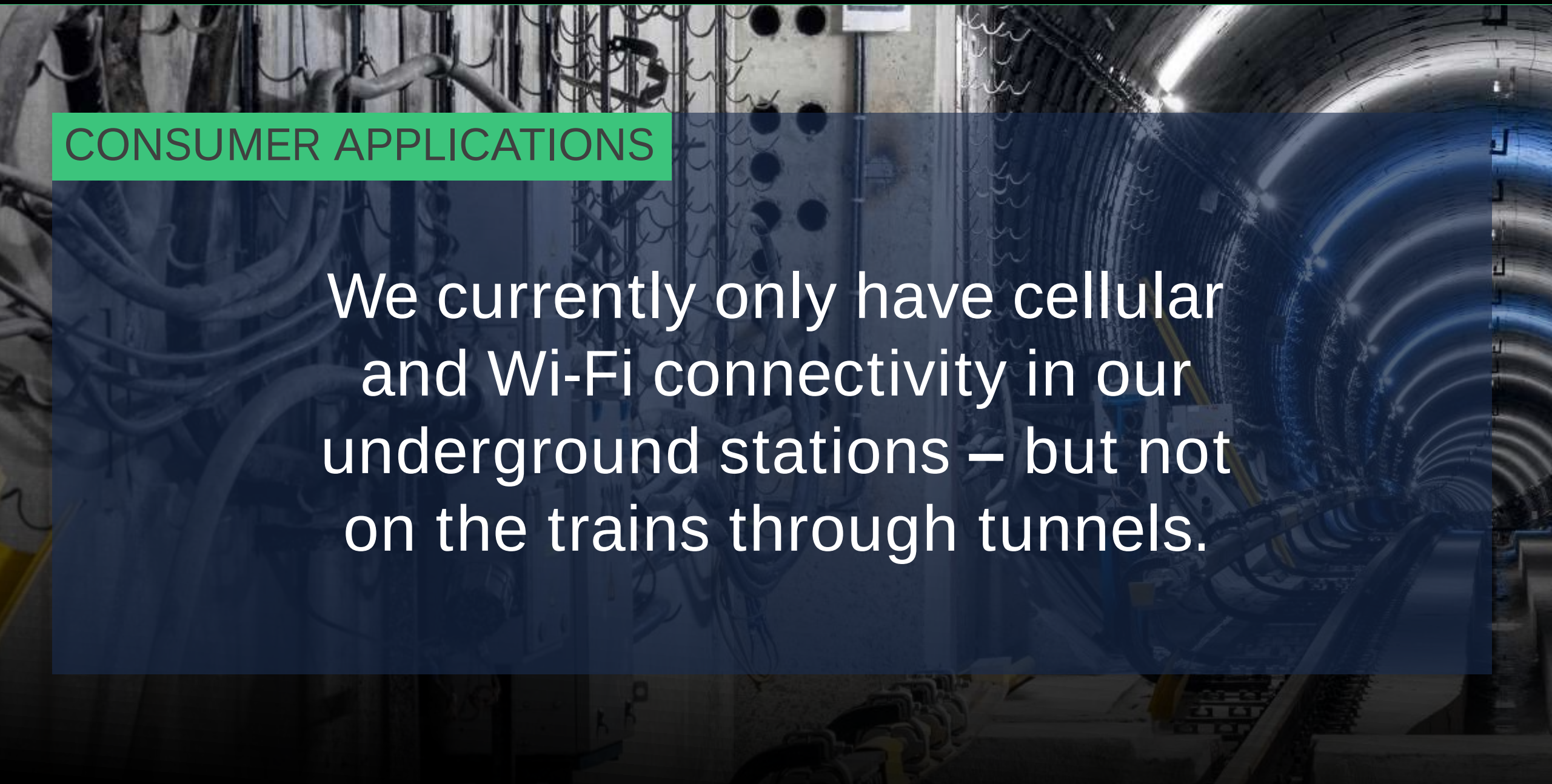
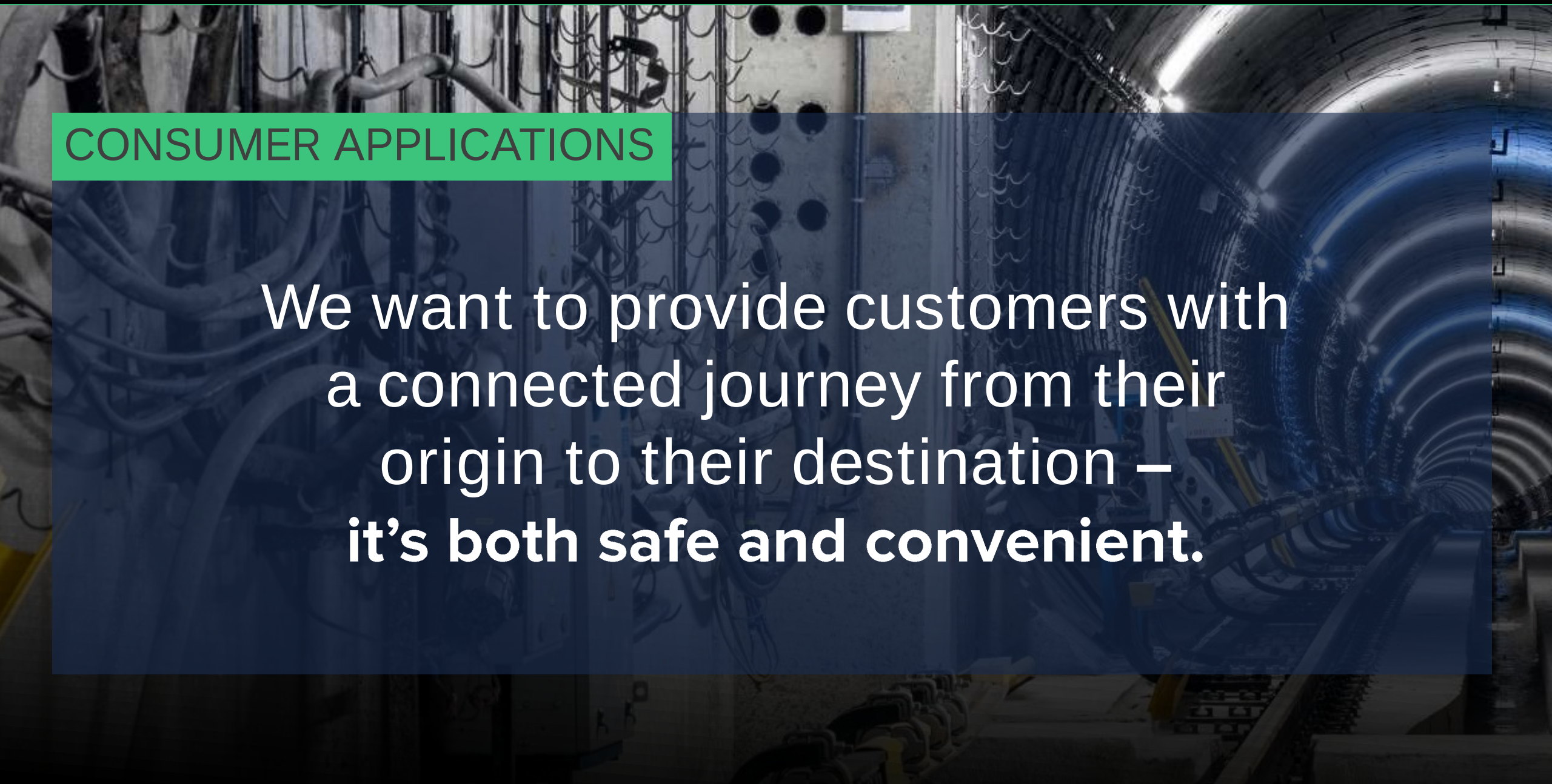
CONSUMER APPLICATIONS

Most new or modernized subway systems throughout the world provide customers with a connected experience throughout their entire journey.



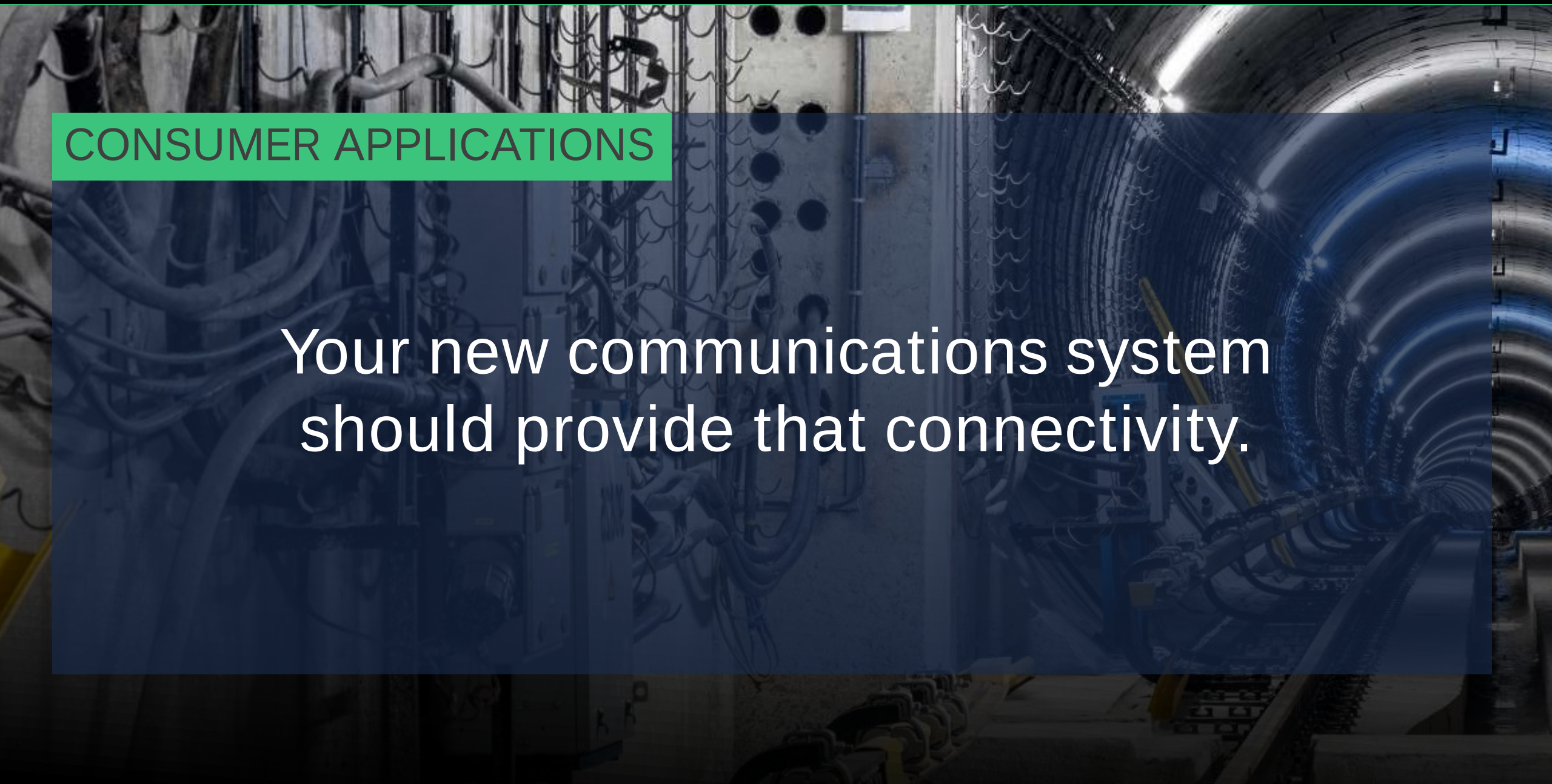
CONSUMER APPLICATIONS

We currently only have cellular and Wi-Fi connectivity in our underground stations – but not on the trains through tunnels.



CONSUMER APPLICATIONS

We want to provide customers with a connected journey from their origin to their destination – **it's both safe and convenient.**



CONSUMER APPLICATIONS

Your new communications system should provide that connectivity.