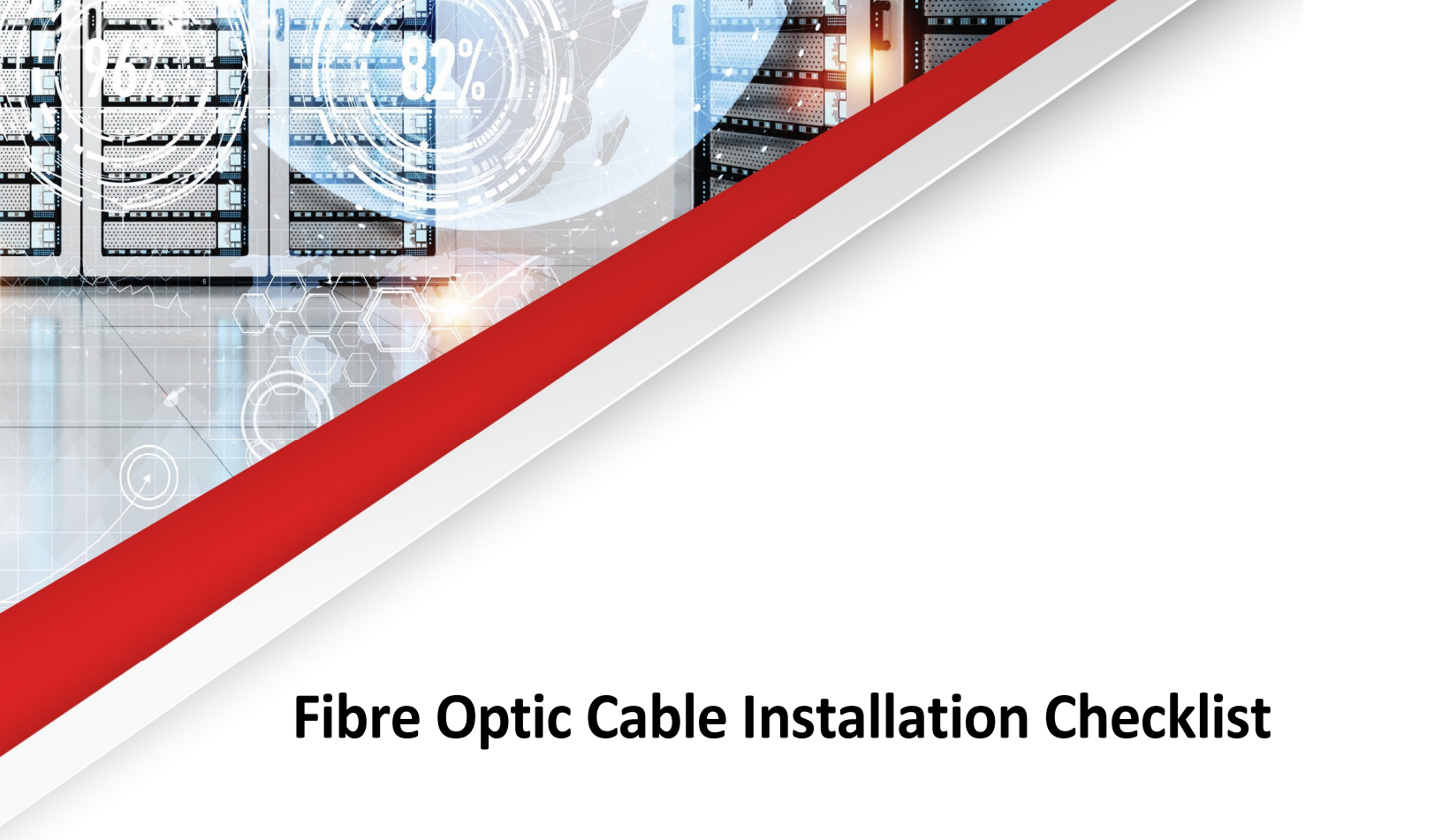




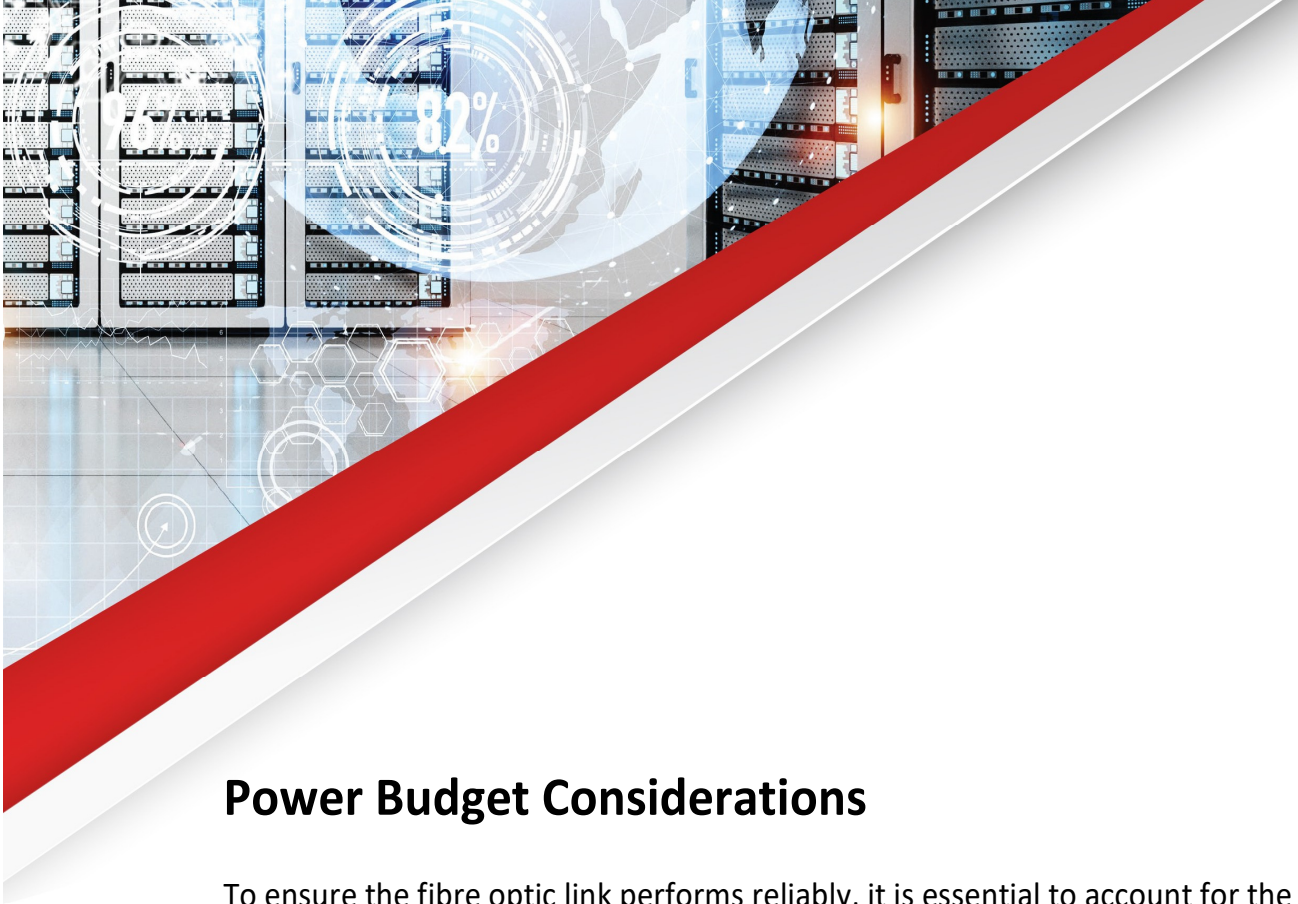
Fibre Optic Cable Installation Checklist

Planning and Site Survey

- Identify the installation type (aerial, underground, in-building)
- Use the table below to assess the best option

Installation Type	Advantages	Disadvantages
Aerial	Cost-Effective, quicker deployment	Susceptible to weather damage, requires pole infrastructure
Underground	Protected from environmental damage, long-term reliability	Higher installation cost, requires permits and trenching
In-Building	Seamless Indoor connectivity, supports high-density networks	Requires drilling, conduit routing, and coordination with building management

- Determine the optimal cable route and assess environmental factors.
- Verify compliance with local regulations and obtain necessary permits.
- Ensure existing infrastructure supports fibre optic equipment.
- Plan for future scalability and network expansion.



Power Budget Considerations

To ensure the fibre optic link performs reliably, it is essential to account for the power budget. Follow these steps to verify the system meets performance requirements:

Calculate the Power Budget

- **Power Budget = Transmitter Power - Receiver Sensitivity**

Assess Link Loss

- Consider all potential sources of loss.

Compare Actual vs. Expected Losses

Verify System Margin

- Maintain a **3-6 dB safety margin**

For future reference and troubleshooting, record:

- Transmitter power (dBm)
- Receiver power (dBm)
- Total link loss (dB)
- System margin (dB)

By incorporating these power budget considerations into the installation process, network performance and reliability can be maximised.



Gathering Essential Tools & Equipment

Mandatory Tools

- Fibre Optic Cleaver and splicer for precision cutting and joining.
- Optical Power Meter and OTDR to measure signal strength and detect faults.
- Fibre Connectors, patch panels, and termination kits for secure connectivity.
- Conduit, cable pulling tools, and protective enclosures for durability.
- Safety gear including gloves, eye protection, and cable markers.

Recommended Tools

- Fibre Optic Cleaning kits to remove dust and contaminants.
- Fusion splicer with alignment capabilities for high-performance splicing.
- Cable testers to ensure proper network function before deployment.

Cable Installation Best Practices

- Follow the recommended minimum bend radius to prevent signal loss.
- Uses proper cable pulling techniques to avoid stretching or damage.
- Secure cables in conduits or protective casings where required.
- Label all cables, connectors, and termination points for easy identification.
- Maintain fibre cleanliness. Avoid dust and debris contamination.



Splicing & Termination

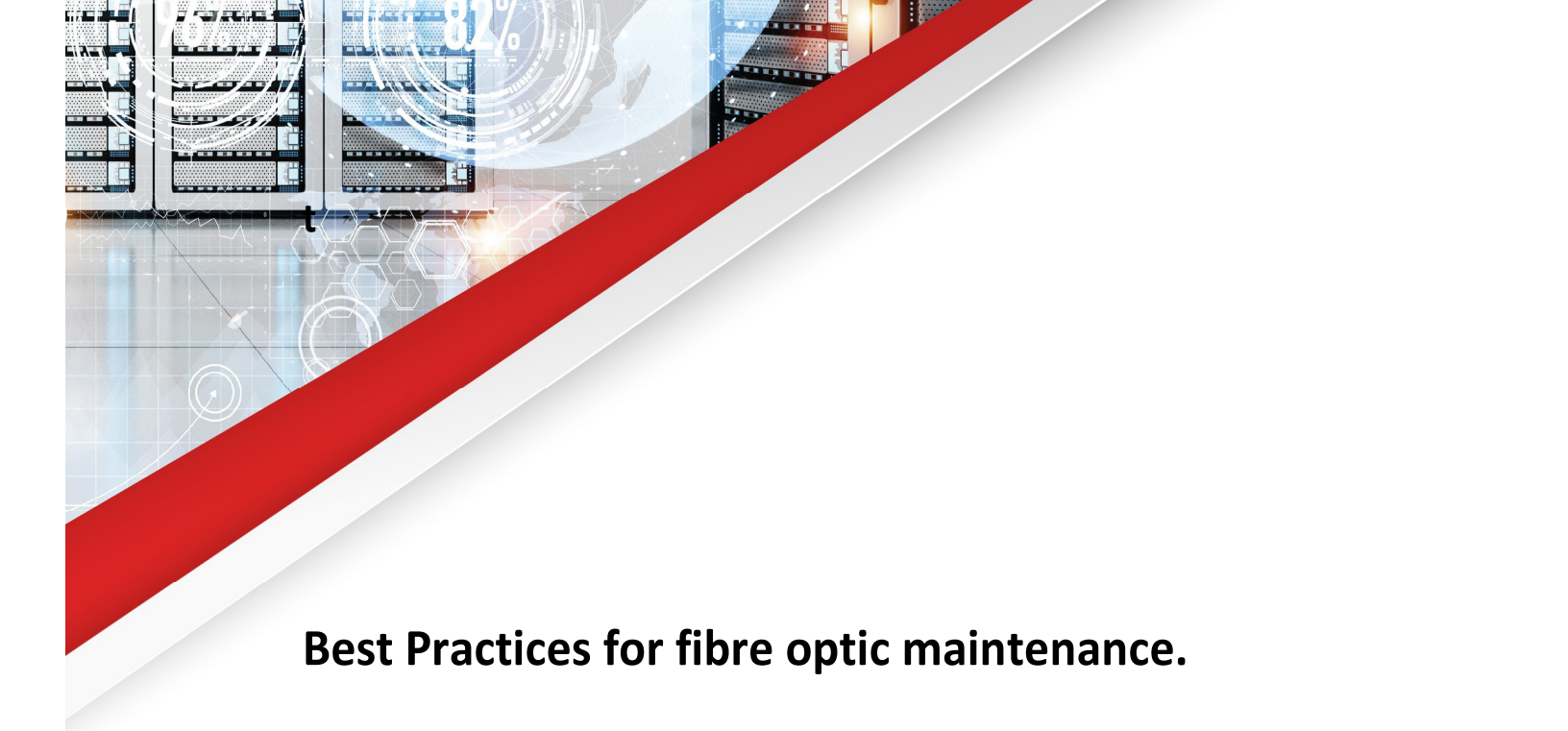
- Select the appropriate splicing method: fusion or mechanical splicing.
- Ensure precise alignment for minimal signal loss.
- Use the correct connector type (LC, SC, ST, MPO) for compatibility.
- Properly secure and protect splices and terminations.
- Test the spliced fibres for finalising connections.

Testing & Certification

- Perform OTDR testing to check for signal loss and potential faults.
- Troubleshoot common OTDR issues:
 - o Ghosting: Check for reflective surfaces or faulty splices.
 - o Excessive Attenuation: ensure correct fibre type and check for microbends.
 - o Reflectance Issues: Clean connectors and re-terminate if necessary.
 - o Splice Loss: Verify alignment and redo splicing if needed.
- Use a power meter to verify optical power levels.
- Conduct insertion loss and return loss tests for quality assurance.
- Document test results for compliance and future maintenance.

Final Installation review

- Verify all cables are properly secured and labeled.
- Ensure terminations are correctly installed and tested.
- Check for any loose or exposed fibre strands.
- Confirm documentation and test results are completed.
- Conduct final performance testing to validate network readiness.



Best Practices for fibre optic maintenance.

- Routine Inspection: Regularly check for loose connections, wear, and cable integrity.
- Cleaning Protocols: Use proper fibre optic cleaning tools to remove dust and debris.
- Troubleshooting Techniques: Train Staff on common network failures and resolution steps.
- Documentation Management: Maintain updated records of fibre paths and test results for quick reference.

Installation Complete

Your fibre optic network is now ready for high-speed, reliable connectivity.

Need professional assistance?

Contact certified fibre optic installers to ensure a seamless deployment.

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