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Connecting you to your network

Optical Spectrum Extended Access (OSEA) Filter Connect Lite

Unleash your business with high bandwidth, short and long distance, low latency connections

About this pack

The information contained within these slides is for information purposes only and represents no commitment and is not intended to be an offer in whole or part. Any developments carried out by CPs based on this information are entirely at the CPs' own risk.

It should be noted that the proposals for the products outlined in this slide-pack represent Openreach's current view at the time of publication. These proposals may change through further development and feedback. All timescales are target estimates only.

These statements involve risks and uncertainties, actual outcomes may differ materially from those expressed or implied by these forward-looking statements, which may include, without limitation, changes in market conditions; supplier arrangements; future regulatory actions and conditions.
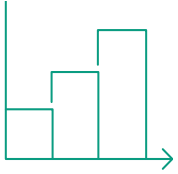
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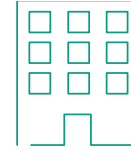
Demand for high bandwidth continues to grow

100Gbps is the reality in most service provider networks

100Gbps capacity

is taking over in enterprise end-customer wide area networks

Early enterprise

adopters of high bandwidth services include finance, government and media, followed closely by other verticals.

Optical services

A secure, flexible and cost-effective way to move very large amounts of data via dedicated fibre links

What this means for you and your customers

Transport high bandwidths in a more effective way

OSEA Filter Connect Lite is a hub and spoke based solution efficiently delivering multiple 10GE spoke links into a small footprint aggregation point at key locations in your network.

With Ciena's Adaptive IP functionality built into the OSEA Filter Connect Lite equipment* you can deliver IP-based connectivity for 5G, IP VPN Business Services, Cloud, Fiber Deep, legacy TDM, and Edge Computing with the service velocity and performance your customers demand when you need to while saving on space and power.

High capacity and port density
- 10GE /100GE

Support future growth
- add spoke bearers as needed, without stacking
- emerging network features e.g. 5G, 25GE, VNF

Pay only for what you need

Stop stacking
- get your services together – minimise footprint and power consumption

Use one box (subject to your requirements and system design)
- save power consumption

Fully managed by Openreach

*Available on certain OSEA Filter Connect Lite NTE only. Additional license required.

Plus the quality you've come to expect

> Dedicated fibre

Our solutions use dedicated fibre, meaning you get exactly what you pay for with full control of your additional bandwidth / wavelength requirements

> True resilience

Our resilient paths use dedicated fibre too, so you'll never have to compromise should the worst happen

> UK wide coverage

You can be confident that that we will be here to help you expand to new sites later (subject to survey) without the worry of being off-net
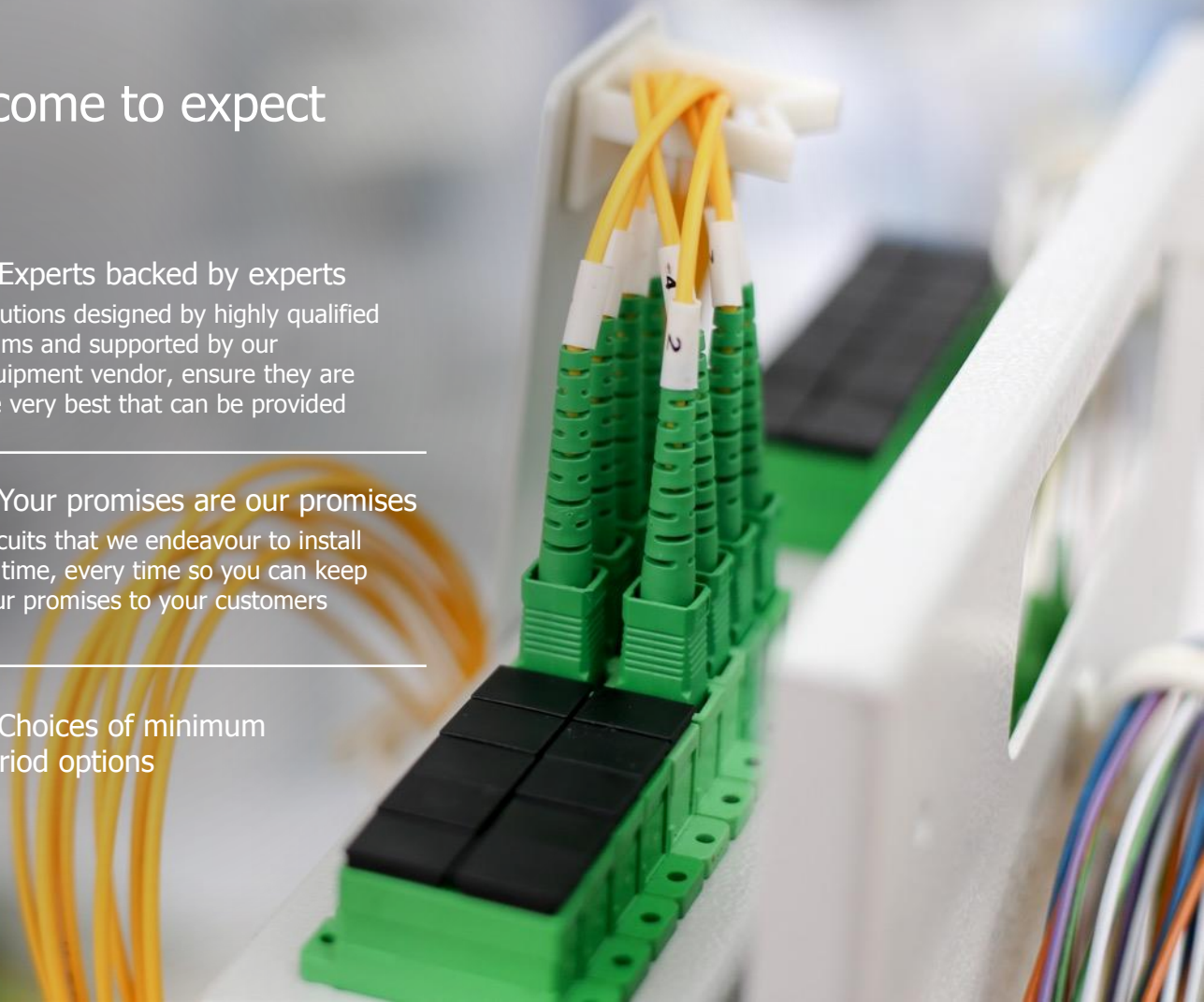
> Experts backed by experts

Solutions designed by highly qualified teams and supported by our equipment vendor, ensure they are the very best that can be provided

> Your promises are our promises

Circuits that we endeavour to install on time, every time so you can keep your promises to your customers

> Choices of minimum period options

All delivered via a managed service approach

Chosen to ensure we could offer the very best solution, fast

We already have proven capability for best practice use of third parties to carry out installation on our behalf.

We are now building on our excellent, long-standing supplier relationship with **ciena** to bring leading platform technology to market via a deeper 'managed service' model.

What this means:

No fundamental differences in order processes from other Optical products

All touch points remain via Openreach

All physical installation and repair functions of the service are supported by Ciena.

Benefits to you:

We're ready **to support your 10GE and 100GE requirements** today.

Access to trained expertise and worldwide market experience helps us to inform best practise design choices for specific sectors and requirements

Our joint expertise is already placing a focus on continued lifecycle improvements e.g. fault-finding and diagnostics.
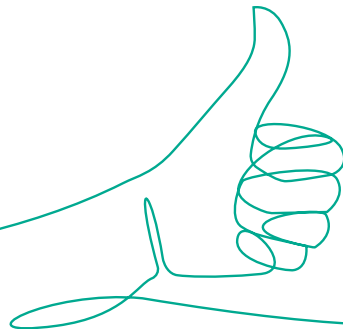
Expert advice that really counts

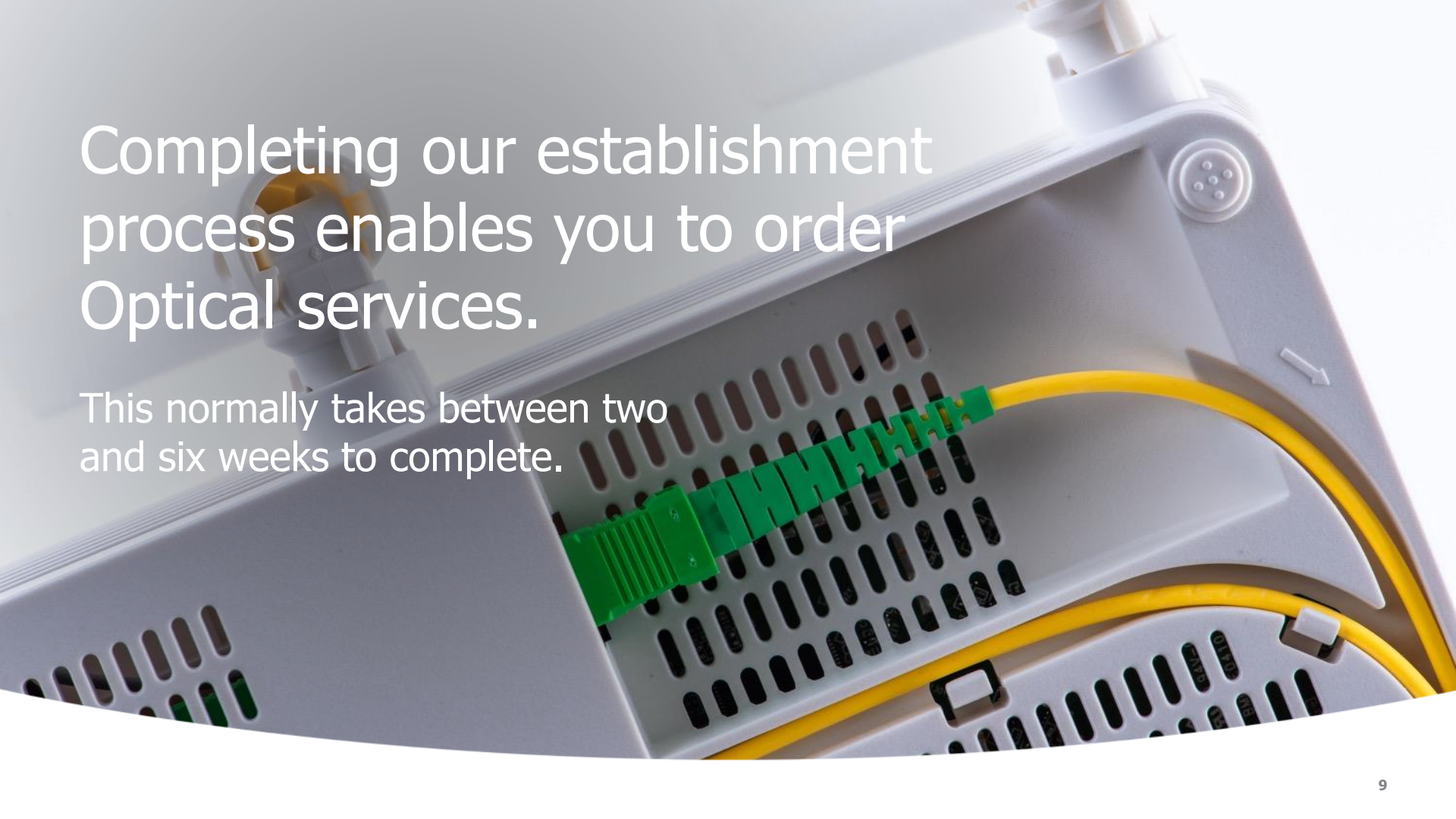**To ensure your optical network investments work as hard for you as possible we'll help you:**

- Make choices that meet your longer term requirements

- Avoid solutions that will restrict your ability to expand

- See through solutions that are cheap at first, but force you to invest again later

We need to do a few things to get you started:

- Explain the process and provide all the advice and guidance you need

- Answer all your questions about working with us

- Provide product information / guidance when needed

- Complete all the details necessary to set you up on our systems.

If you're new to Optical solutions, or need our advice, we'll help you understand:

- When it makes sense to switch from multiple circuits

- How to add optical circuits to improve business continuity in your existing network

- How optical solutions could help you save thousands of pounds on space and power.

Completing our establishment process enables you to order Optical services.

This normally takes between two and six weeks to complete.

Current set up

10GE traffic from remote sites to data centre/exchange (aggregation site)

Significant space and power consumption

10GE 10GE 10GE 10GE 10GE 10GE 10GE 10GE

Data centre/exchange

n x 10GE

Remote sites

10GE 10GE 10GE 10GE 10GE 10GE 10GE 10GE
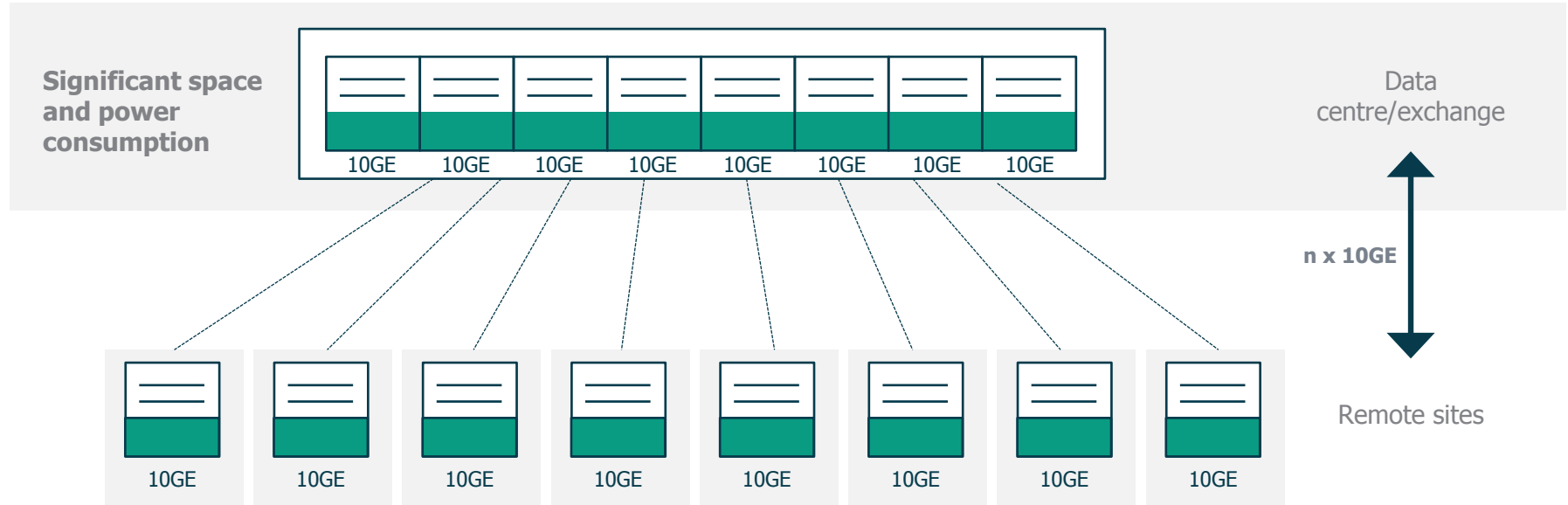
OSEA Filter Connect Lite
Aggregator configuration

Space reduction

Power consumption optimisation

n x100GE

n x10GE

Data centre/exchange

n x 10G

Remote sites

10GE 10GE 10GE 10GE 10GE 10GE 10GE 10GE
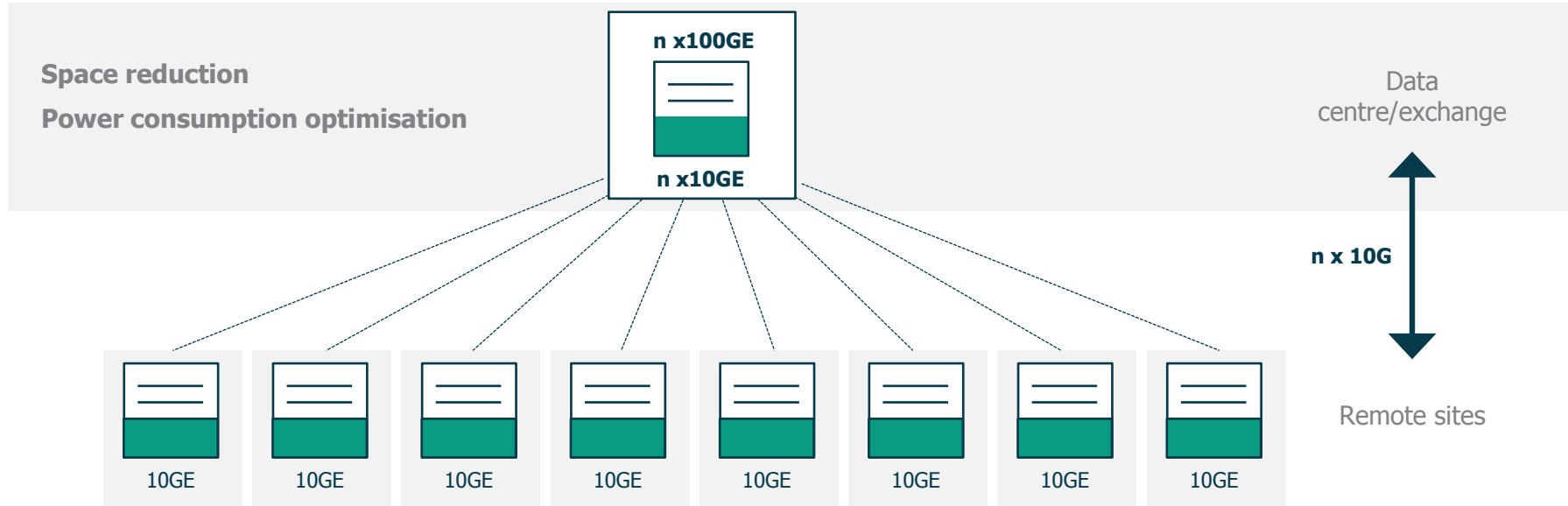
OSEA Filter Connect Lite

Space and power saving
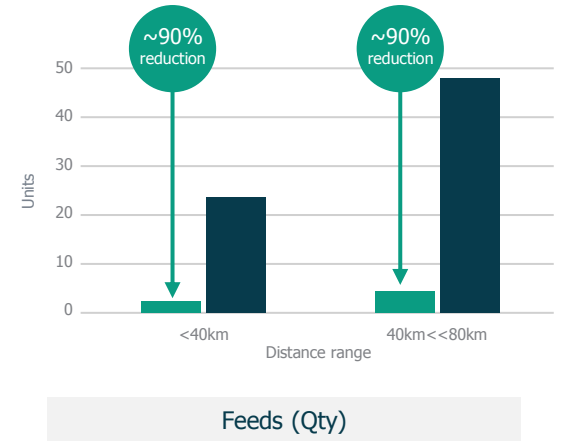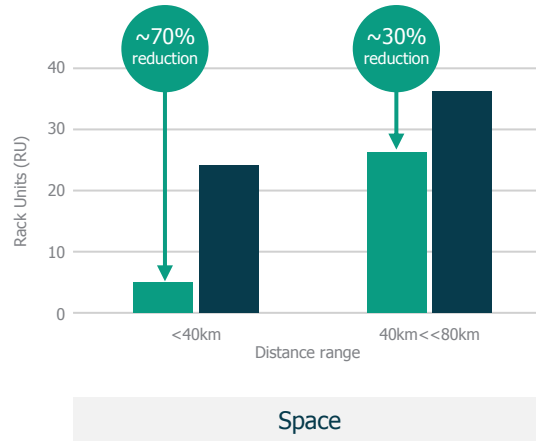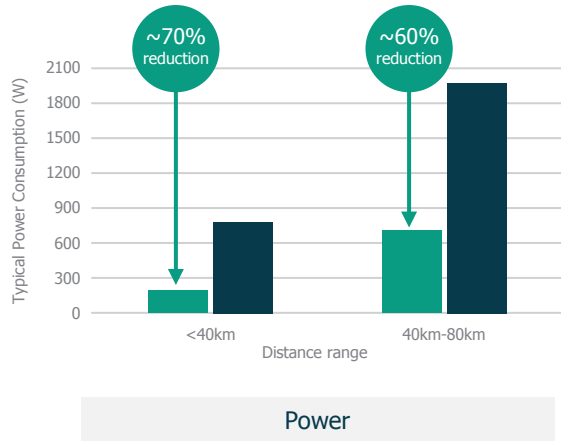
OSEA Filter Connect Lite overview

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High Capacity

Temperature Hardened -20C to +65C

SyncE 1588v2(PTP)

IP Route Capability (Adaptive IP)

IP

Site #1
CPE 1

10GE
SFW/DFW/DWDM

Site #2
CPE 2

10G
SFW/DFW/DWDM

Site #3
CPE 3

100G/200G
DFW/DWDM

Site #n
CPE n

25G
DFW

Mid Aggregation Site (Future)

AGG 1

Line Interfaces Options
- 10G Bidi 40/80km
- 10G DWDM wo/FEC/w/FEC
- 25G – {Future release}
- 100G 4WDM
- 100G/200G DWDM

10G/100G
DFW/DWDM

Data centre/Colocation site/PoP/HQ

AGG 2

CP Equipment

Client Interfaces Options
- 10G SM/MM
- 25G – {Future release}
- 100G SR4/LR4

OSEA Filter Connect Lite equipment characteristics

Mobile backhaul examples
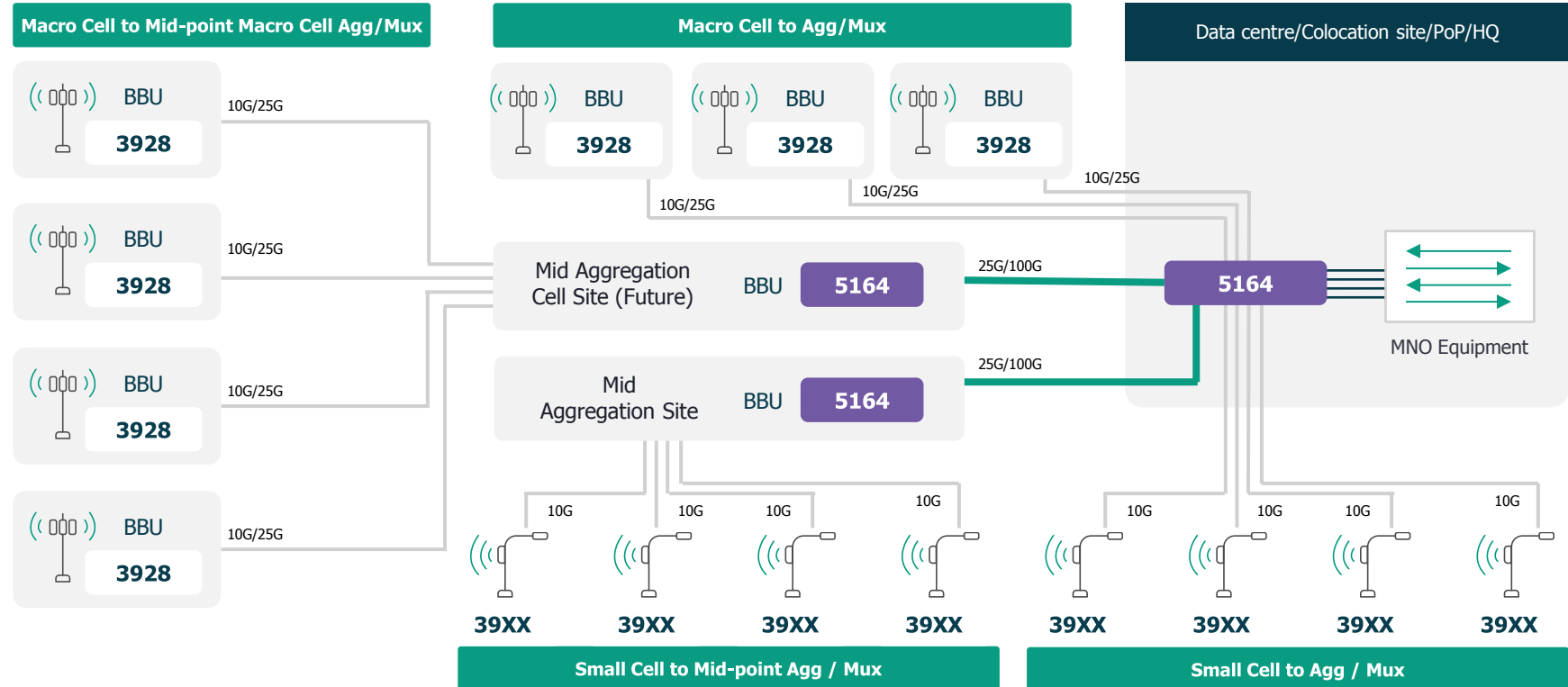
OSEA Filter Connect Lite use case

Space, power and feed savings at head ends

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Site #1
3928

Site #1
3928

Site #1
3928

Site #1
3928

1x 5160 instead of 4x 3928
4U ---→ 1U
192W (DC) ---→ 113W (DC)
8 power feeds/breakers --→ 2 power feeds/breakers

Data centre/Colocation site/PoP/HQ

Site #1
3928

Site #1
3928

Site #1
3928

5160

CP Equipment

5164

CP Equipment

Site #1
3928

Site #1
3928

Site #1
3928

1x 5164 instead of 6x 3928
6x 10G handoff ---→ single 100G handoff
6U ---→ 1U
288W (DC) ---→ 280W (DC)
12 power feeds/breakers --→ 2 power feeds/breakers

OSEA Filter Connect Lite use case
Mid-point Aggregation

Site #1
3928

10G
SFW/DFW/DWDM

Site #2
3928

10G
SFW/DFW/DWDM

Site #1
3928

10G
SFW/DFW/DWDM

Site #2
3928

10G
SFW/DFW/DWDM

Site #2
3928

10G
SFW/DFW/DWDM

5x SFW or 10x DFW/DWDM fibre runs shortened and replaced by 2x fibres from AGG1 to AGG2

Mid Aggregation
Cell Site (Future)

AGG 1

Exchange, POP or
Street Cabinet

Central Office

x10G/x100G

51XX

CP Equipment

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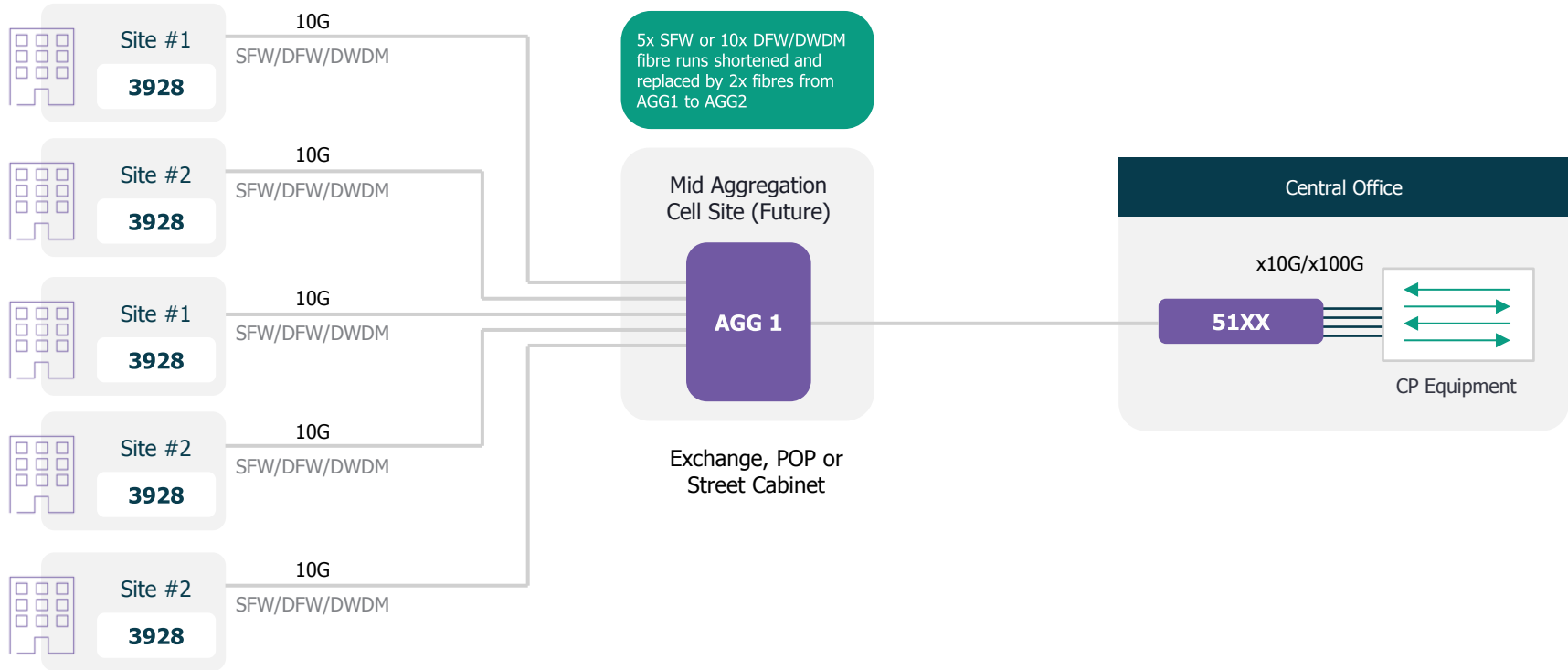
OSEA Filter Connect Lite equipment characteristics
Space and power

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	Height (mm)	Width (mm)	Depth (mm)	Footprint	Typical Power consumption (AC)	Max power consumption (AC)	Typical Power consumption (DC)	Max power consumption (DC)	MCB Rating (AC)	MCB Rating (DC)	Max Load (AC)	Max Load (DC)
3928	44	444	252	1RU	40W	45W	45W	50W	3 Amps	3 Amps	1 Amp	1.25 Amps
5160	44	444	252	1RU	113W	175W	113W	175W	3 Amps	15 Amps	2 Amps	10 Amps
5164	44.5	440	260	1RU	280W	360W	280W	360W	5 Amps	15 Amps	3.8 Amps	8 Amps
5171	89	445	254	2RU	328W	800W	328W	800W	10 Amps	25 Amps	8 Amps	23 Amps

OSEA Filter Connect Lite

Meet the boxes

OSEA Filter Connect Lite Portfolio

Devices

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Client

10GE (SM / MM)

100GE SR4 / 100GE LR4

1RU
3928
DC   DC

1RU
5160

1RU
5164   IP

2RU
5171   IP

Line

10G Bidi (40/80km) / 10G DWDM / 10G DWDM w/FEC

100G 4WDM

100G/200G
QSFP28/56

100G/200G
QSFP28
Coherent
CFP-2-DCO

IP Optional IP Router Capability
(Adaptive IP)

Temperature Hardened
-20C to +65C

Ext – BITS/1pps/GPS
SyncE – Freq/ToD
1588v2(PTP) – Freq/Phase/ToD
Hybrid 1588v2(PTP)/SyncE
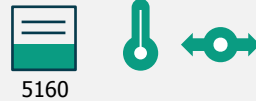
OSEA Filter Connect Lite Portfolio
Devices

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1RU

3928   DC   DC   IP

10GE aggregation in 1RU
252mm front to rear depth

2x10GE Client –
2x10G Line

1RU

5160   IP

10GE aggregation in 1RU
252mm front to rear depth

12x10GE Client –
12x10G Line

1RU

5164   IP

10GE to 100GE
Aggregation in 1RU
252mm front to rear depth

2x100GE Client –
20x10G Line
16x25GE Client –
2x200G Line

2RU

5171   IP

10GE to 100GE
Aggregation in 2RU
100GE Coherent Optics for
longer reach
254mm front to rear depth

4x100GE Client –
40x10G Line
20x10GE+2x100GE Client
20x10G+1x200G Line

Application

Example

IP   **Optional IP Router Capability (Adaptive IP)**
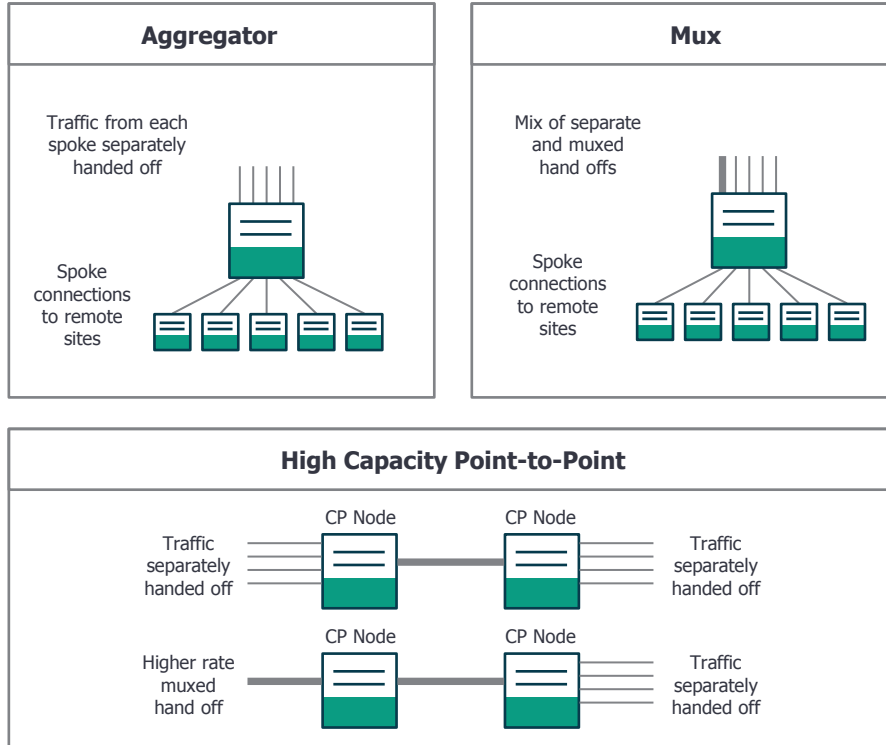
Temperature Hardened -20C to +65C

**Ext – BITS/1pps/GPS
SyncE – Freq/ToD
1588v2(PTP) – Freq/Phase/ToD
Hybrid 1588v2(PTP)/SyncE**

OSEA Filter Connect Lite

Configurations

OSEA Filter Connect Lite
Configurations

Aggregator

Traffic from each spoke separately handed off

Spoke connections to remote sites

Mux

Mix of separate and muxed hand offs

Spoke connections to remote sites

High Capacity Point-to-Point

CP Node   CP Node

Traffic separately handed off

Traffic separately handed off

CP Node   CP Node

Higher rate muxed hand off

Traffic separately handed off

Fibre options
- Dual Fibre Working (DFW)
- Single Fibre Working (SFW) options

DWDM filter options:
- 4-channel
- 8-channel

End Point Amplification where required:
- Pre-amplification
- Pre and Booster Amplification
- No Intermediate Line Amplification (ILA)

Client Interface options:
- 10GE SM / MM
- 100GE SR4 / LR4

Line Interface options:
- 10G Bidi 40/80km
- 10G DWDM wo/FEC / w/FEC
- 100G 4WDM
- 100G/200G DWDM

OSEA Filter Connect Lite
Links and contacts

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Product information for OSEA:

> Product overview and collateral

> Product description (login required)

Specific product queries:

For specific product queries please contact your Openreach business development manager

The Openreach price list is always the most reliable source of up to date pricing information

> Openreach price list

The information contained in these slides is to be used for information purposes only.
The Openreach portal should always be referred to for the latest product and contractual information.

Thank you

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