



SMART CHOICES FOR DIGITAL INFRASTRUCTURE

Three steps to empower
your local area network

Emerging standards for wireless



WIRELESS

>10G



2009

IEEE 802.11n



2013

IEEE 802.11ac



≈ 2020

IEEE 802.11ax

Antennas	Access Points Peak Data Rates (theoretical maximum)		
1x1	150 Mbps	866 Mbps	≈ 3.4 Gbps
2x2	300 Mbps	1.7 Gbps	≈ 6.8 Gbps
4x4	450 Mbps	3.4 Gbps	≈ 13.6 Gbps
8x8	600 Mbps	6.9 Gbps	≈ 27.6 Gbps
Reach	~ 70 m	~ 35 m	~ 10 - 20 m

Wireless drives for more bandwidth



BANDWIDTH

x10
Bandwidth

	PAST	NOW
Cat 5e	1G	2.5G
Cat 6	1G	5.0G
Cat 6A	10G	10G
Cat 7A	10G	25G

Limitations & performance?

Bundle sizes?

Distances?

Alien crosstalk?

Heat?

New standards for Power over Ethernet



POWER

x3
Power

	2003	2009	2017	2017
	PoE Type 1 IEEE802.3af	PoE+ Type 2 IEEE802.3at	PoE++ Type 3 IEEE802.3bt	PoE++ Type 4 IEEE802.3bt
Power sent	15.4W	30W	60W	90W
Power delivered	12.95W	25.50W	51W	71W
Number of pairs	2	2	4	4

Three steps to digitally empowering your enterprise



To **meet explosive growth** in demand for bandwidth and functionalities, and ensure cabling, connectivity and networks hold up in an increasingly demanding environment, a **digital transformation** is needed.

Nexans' three-step approach makes it easier to find a solution, as there's no **'one size fits all' answer**.

Three steps to digitally empowering your enterprise

Network flexibility

Building conditions

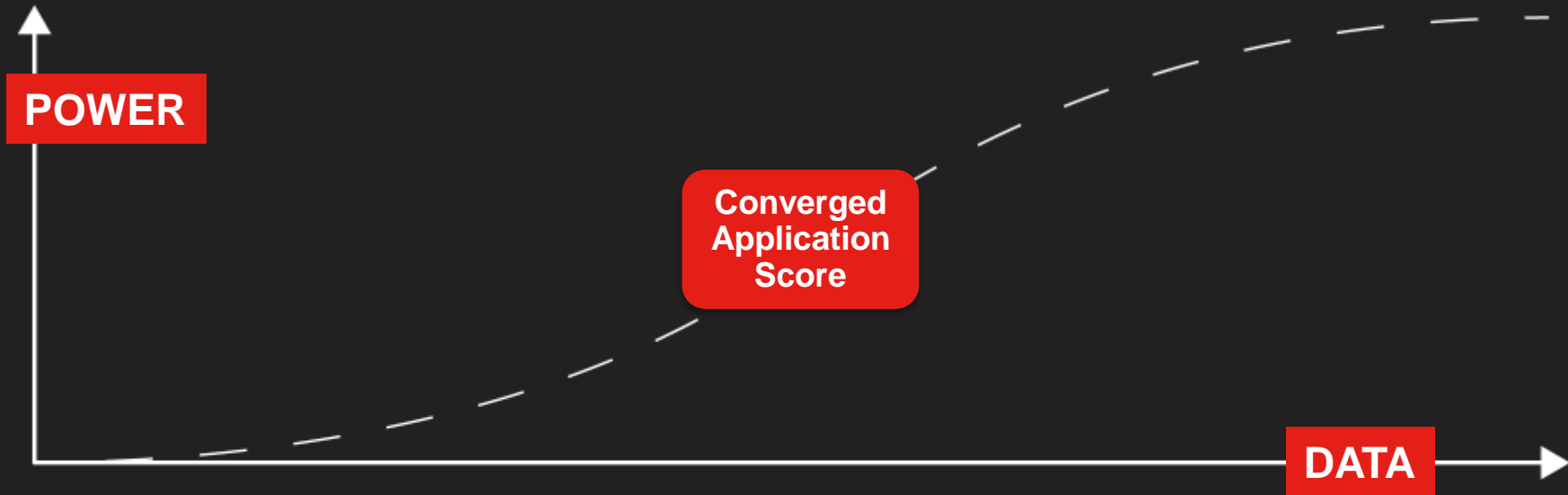
People & devices

What type and level of performance do your organisation's users and devices require? Not only right now, but also in the future.

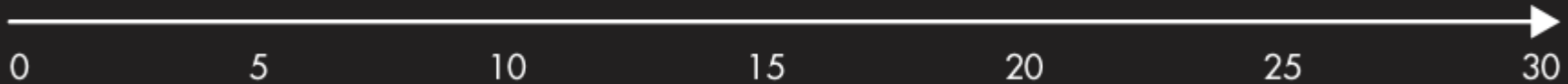
Evolution of convergence



How to select the cabling that will offer the right performance?



Your Converged Application Score?



LANmark



LANmark-6 U/UTP

9.2

LANmark-6A F₁UTP

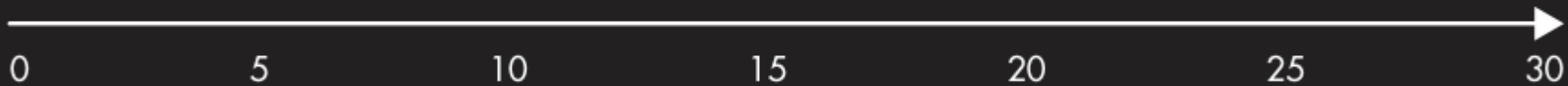
19.4

LANmark-6A FFTP

20.0

LANmark-7A SFTP

25.6



Three steps to digitally empowering your enterprise

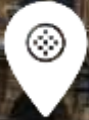
Network flexibility

Building conditions

People & devices

Which specific conditions exist in your building(s)? Which distances need to be bridged? Are there specific requirements with regard to functionality or uptime?

Changes to a building not possible or permitted?



Reduce space for
cabling or technical
rooms

Reaction to Fire? European Construction Products Regulation



High risk area's
Consequential damages
Fire load

Class	Smoke	Droplets	Acidity
F _{ca}	s2	d2	a2
B2 _{ca}	s1	d1	a1
B1 _{ca}	s0	d0	a0

Three steps to digitally empowering your enterprise

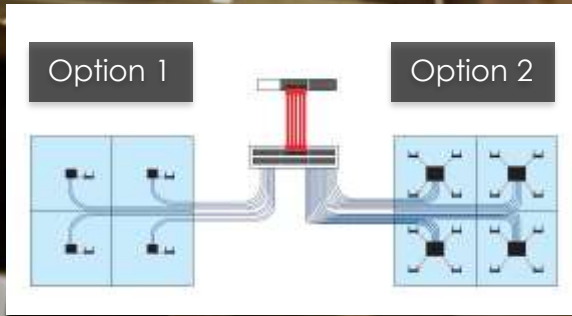
Network flexibility

Building conditions

People & devices

How flexible does your network need to be to accommodate probable future requirements?
How do you ensure this is the case?

Planning: a lifetime of adaptations



Flexible office space,
flexible infrastructure
Zone distribution
approach



LANmark

LANsense LANactive

Parameters driving solutions choices:

Traditional network architecture

FTTO

Horizontal cabling

Backbone

AIM

LANmark-6 UTP

LANmark-6A FTP

LANmark-7A

LANmark-OF3

LANmark-OF4

LANsense

LANactive with NEXMAN

People & devices

Bandwidth

Energy

CA score

Building conditions

Extended drive distance

Reduced space requirements

Harsh environment support

Reaction to fire / fire load

Enhanced Security

Network Flexibility

Planning

Automated documentation

Redundancy



SMART CHOICES FOR DIGITAL INFRASTRUCTURE

Three steps to empower
your local area network