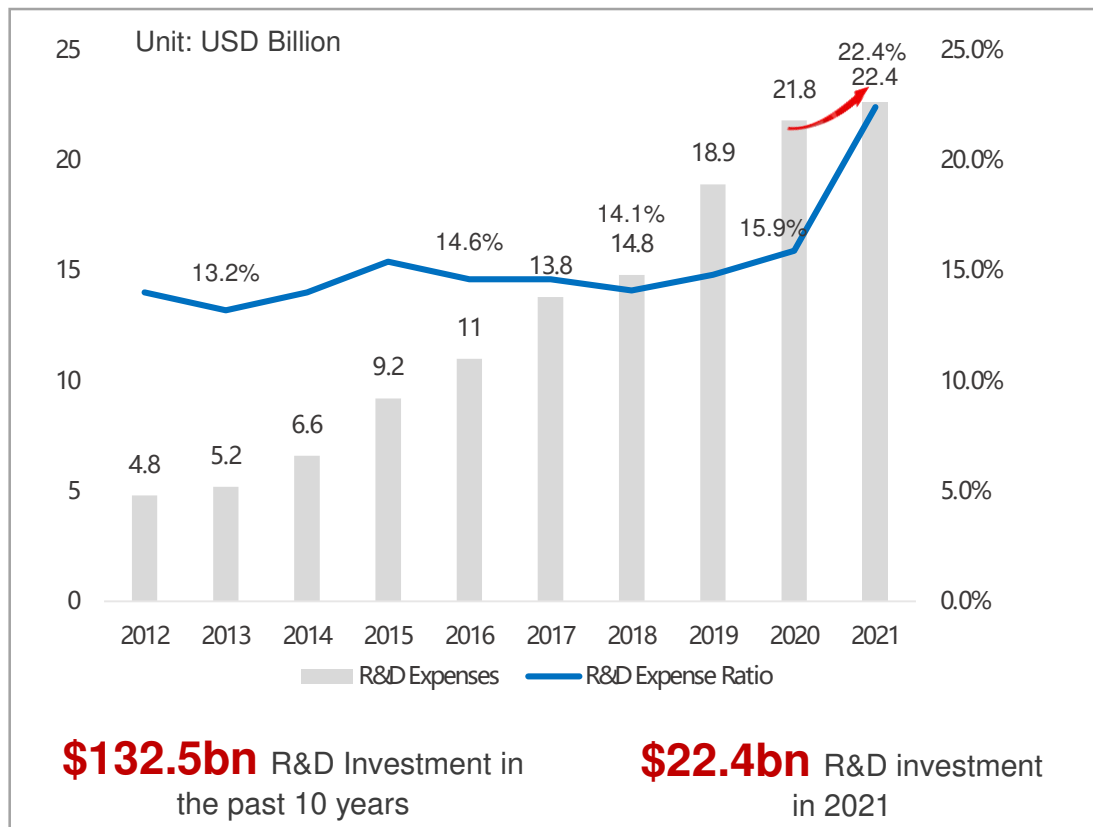


# Huawei Enterprise ICT Solutions Introduction

# Heavy & Persistent R&D Investment: Leading in the Industry

## R&D Investment in 2021 Hits a 10-year High



Source: Huawei annual report, 2021

## No.2 In Global Industrial R&D Investment

Ranking		R&D Spending (€ Bn)	CAGR	
2016	2020			
4	1	Alphabet	22.47	15.3%
8	2	HUAWEI	17.46	13%
5	3	Microsoft	16.88	9.7%
2	4	SAMSUNG	15.9	7.5%
11	5	Apple	15.28	13.3%
29	6	Meta	15.03	25.5%
1	7	Volkswagen	13.89	0.3%
7	8	Roche	11.25	4.2%
3	9	Intel	11.05	1.2%
9	10	Johnson & Johnson	9.91	6%
17	26	CISCO	5.17	-2%
35	41	ERICSSON	3.89	0.2%
25	44	NOKIA	3.84	-4.3%


Source: 12.2021, The 2021 EU Industrial R&D Investment Scoreboard

# We are a Leading Global Provider of ICT Infrastructure and Smart Devices

## Digital Power

<p>Site Power</p>  <p><b>No.1</b> 35.6% MS</p>	<p>Prefabricated modular DC</p>  <p><b>No.1</b> for 7 years</p>
<p>Smart PV</p>  <p><b>No.1</b> for 6 years</p>	<p>Embedded Power</p>  <p><b>809Mn</b> pcs delivered</p>


## Intelligent Auto Solution

<p>US\$1.5 billion in R&amp;D investment in 2022</p> <p><b>One of the fastest-growing intelligent EV brands</b></p>	<p>7,000 R&amp;D personnel</p> <p><b>An intelligent, electric luxury SUV</b></p>
 <p>AITO M5</p>	 <p>AITO M7</p> <p>Jointly designed by SERES and Huawei</p>



## Smart Devices

<b>1</b>	+	<b>8</b>	+	<b>N</b>
<b>Mate Xs 2</b> Flagship		<b>30%↑</b> Revenue of Watch + Earphone + IdeaHub		<b>2000+</b> HarmonyOS Connect Partners

## Connectivity Infrastructure

	<b>MetaAAU</b>		
<b>+30%</b> Coverage	<b>+30%</b> Throughput	<b>-30%</b> Energy Saving	

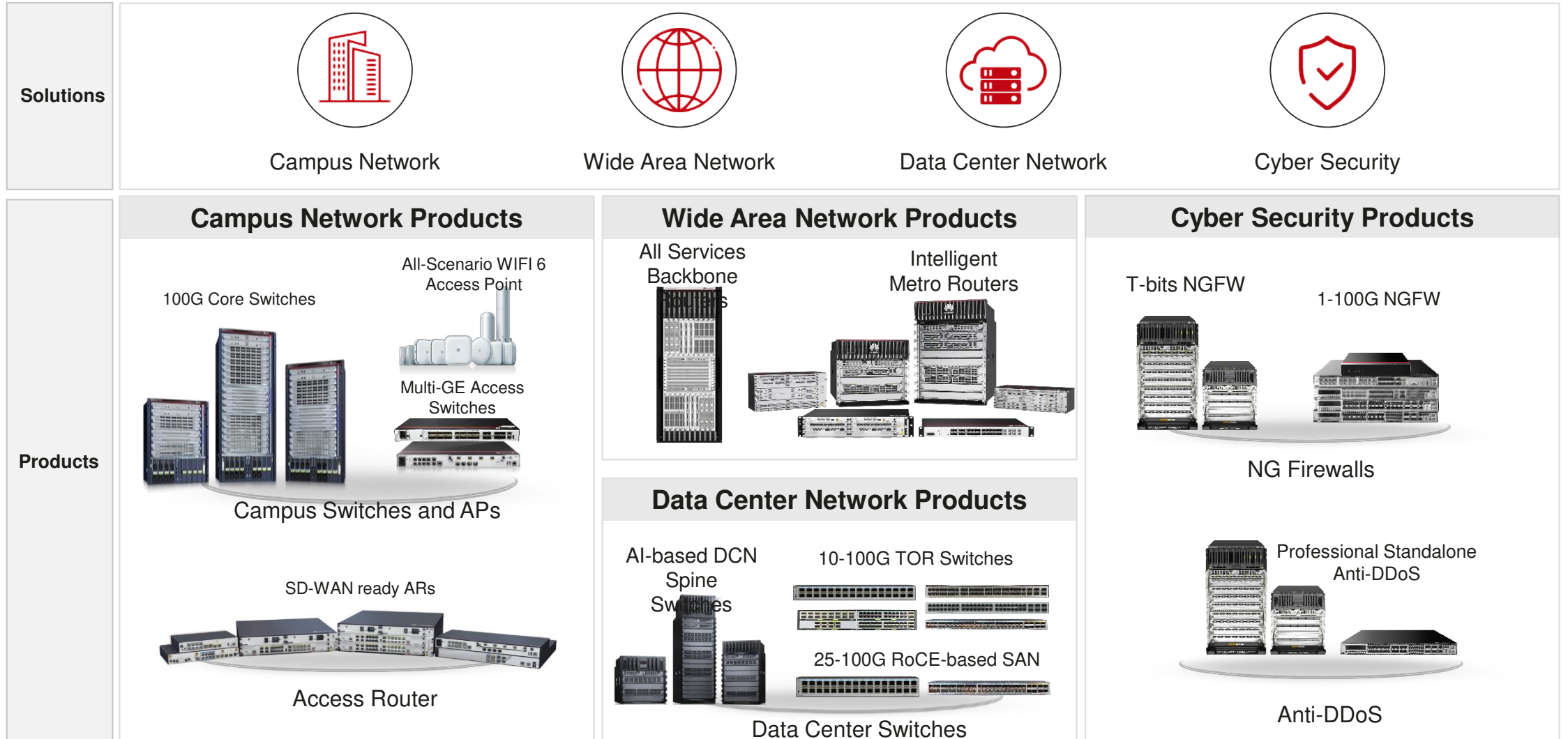
## Cloud

<b>No. 2</b> In China	NAs <b>59%</b>	
<b>No. 5</b> In Global	Sales <b>105%</b>	
	<b>3mn+</b> Developers	
	<b>7,400+</b> partner applications	

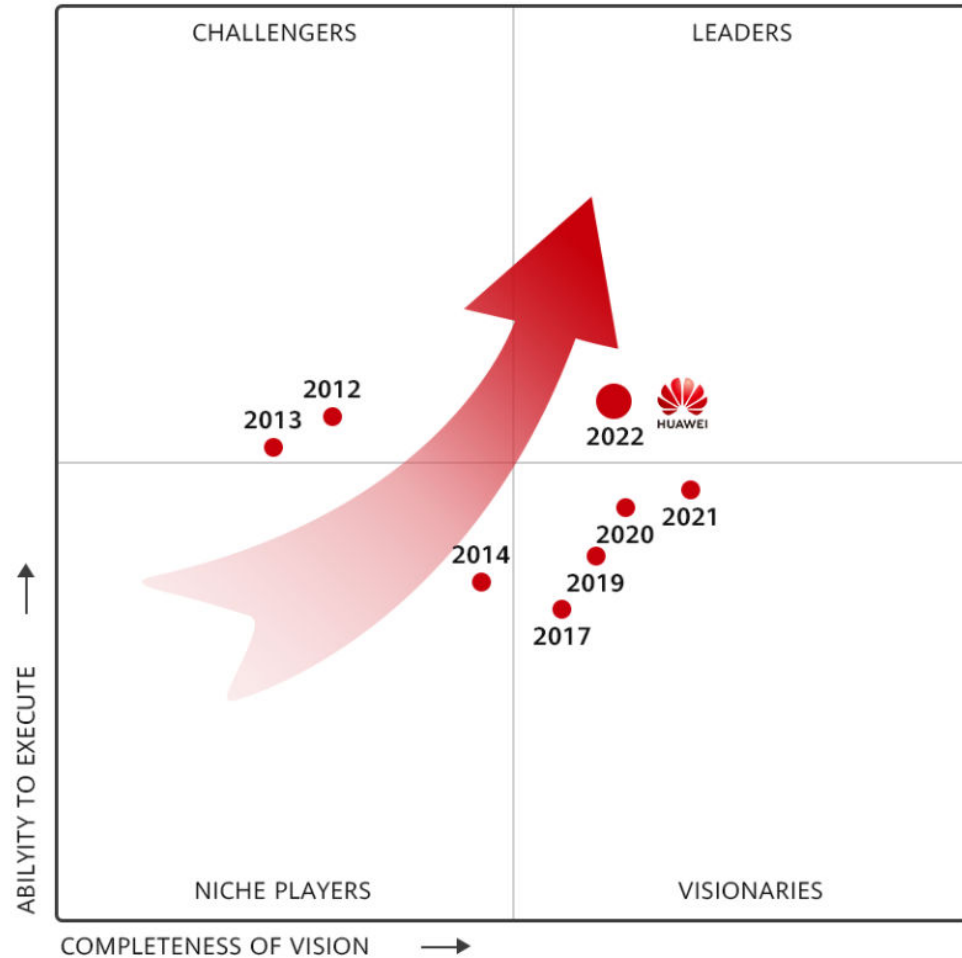
# Huawei' World-leading Enterprise ICT Products & Solutions

<p><b>Device</b></p>  <p>CPE</p> <p>Industrial Equipment</p>  <p>IdeaHub</p>	<p>Government</p>  <p>Smart City</p> <p>Tax, Billing, Insurance</p>	<p>Finance</p>  <p>Smart Fin.</p> <p>Banks</p> <p>Stock</p>	<p>Energy</p>  <p>Interconnection</p> <p>Power</p> <p>Gas</p>	<p>Transport</p>  <p>Smart Trans.</p> <p>Railway</p> <p>Highway</p>	<p>Education</p>  <p>Interaction</p> <p>University Schools, Remote Edu</p>	<p>Health</p>  <p>AI analysis</p> <p>Telemedicine,</p>	<p>Manufacture</p>  <p>Flexible</p> <p>Manufacturing cell,</p>	<p><b>AI</b></p>  <p>Intelligent Edge Computing</p>  <p>Processors</p> <p><b>SDN</b></p>  <p>Data Center</p>  <p>iMaster NCE</p>
	<p><b>Data Center</b></p> <p><b>Storage No.1</b> Source: Gartner</p> 		<p><b>SDN DCN No.2</b> Source: IDC</p> 		<p><b>Security</b></p> 			
	<p><b>Network</b></p> <p><b>Wi-Fi No.3</b> Source: Gartner</p> 		<p><b>Campus No.2</b> Source: IDC</p> 		<p><b>Optical No.1</b> Source: OVUM</p> 		<p><b>IP Router No.1</b> Source: IHS</p> 	

# Huawei Provides End-to-end Data Communication Portfolios



# Wired and Wireless LAN: The Leader in the 2022 Gartner Magic Quadrant



Magic Quadrant™ for Enterprise Wired and Wireless LAN Infrastructure

**Simplified O&M** >>>>

**L3.5 autonomous driving**

Manual O&M  $\rightarrow$  Intelligent O&M

**68%  $\uparrow$**

**O&M efficiency**

**Simplified branch** >>>>

**One global network**

Secure multi-cloud and multi-branch interconnections

**100%  $\uparrow$**

**cloud access efficiency**

**Simplified network** >>>>

**Hyper-converged architecture**

IT/OT convergence  
One network for workplace and production environments

**Zero**

**production interruptions**

**Superior experience** >>>>

**Interruption-free video conference**

Seamless access  
X00 Mbps @ Anywhere

**30%  $\uparrow$**

**productivity**

# WLAN Differentiator 1: X00 Mbps @ Anywhere, Winning Every Test, Ideal for Office and Education Scenarios

## Trends, pain points, and opportunities

### Upgrade of Wi-Fi 4/5

Live-network installed based: 60/40 million  
EOX in 2023: 16/8 million

### Wireless Trend

Fully-wireless	Number of STAs per user	1	➔	2+
	Number of STAs/AP	30	➔	60
Audio and video preference	Application	80% data	➔	80% audio and video
	Single file transfer	100 MB	➔	1 GB
No speed drop during movement	Office mode	Fixed PC	➔	Smartphones in mobility

### Poor office experience

**Huawei's unsmooth conferences in 2021: 230,000**

Separated networks and applications, **poor VIP user experience**

### ByteDance

60%+ channel utilization for long time  
**Poor experience** in video conference

## X00 Mbps @ Anywhere: consistent experience



**AirEngine**  
Entry-level and mid-range

### 100 Mbps @ Anywhere – Commercial

**30 channels** of HD video conferences without frame freezing  
Typical scenario: **100 Mbps** anytime anywhere + 8-channel HD conference



**AirEngine**  
Mid-range and high-end

### 200 Mbps @ Anywhere – N/A

**50 channels** of HD video conferences without frame freezing  
Typical scenario: **200 Mbps** anytime anywhere + 8-channel HD conference



**AirEngine 8771-X1T**  
Wi-Fi 7 AP

### 500 Mbps @ Anywhere – N/A

**120 channels** of HD video conferences without frame freezing  
Typical scenario: **500 Mbps** anytime anywhere + 30-channel HD conference



Large enterprise



Education



Commercial

## Consistent experience regardless of access density, loads, or movement

### Ultra-high-density access

**30/50/120** channels

*Vs. 25/30/80 channels (other vendors)*

OFDMA + MU-MIMO joint scheduling 2.0  
Air-interface traffic pre-aggregation  
Coordinated Spatial Reuse (CoSR)

### Audio and video assurance

HD conference + **100/200/500** Mbps anytime anywhere

*Vs. 30/40/100 Mbps (other vendors)*

Intelligent multimedia scheduling 2.0  
Intelligent scenario identification and network self-optimization

### Seamless coverage and roaming

**No compromise** of roaming bandwidth  
*vs. 50% decrease in roaming bandwidth (other vendors)*

AI-based network planning  
Dynamic-zoom smart antennas  
AI roaming

# WLAN Differentiator 2: Distributed Wi-Fi, Zero Roaming for 64 Rooms, Zero Service Interruption in Healthcare Scenarios

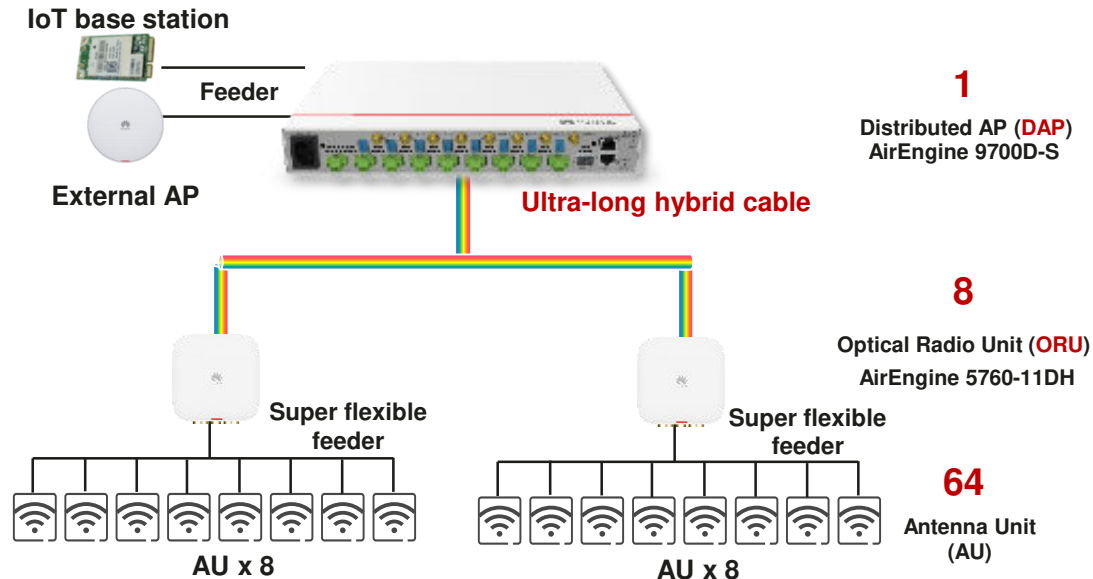
## Pain points



### Pain points in healthcare network scenarios

- **Roaming packet loss:** Slow response of PDA-based barcode scanning, resulting in low efficiency of nurses
- **Low bandwidth:** Long-time waiting for querying PACS images during mobile ward-round of doctors
- **Separate deployment of intranet and extranet:** high deployment and O&M costs

## Distributed Wi-Fi: wide coverage, zero roaming



**Coverage for 64 rooms**  
**Ultra-long hybrid cable, 500 m deployment**  
**All RUs on the same channel, zero roaming and zero packet loss**



Healthcare

- To be deployed in:
- 301 Hospital
  - Zhejiang Provincial Hospital of Chinese Medicine

## Product competitiveness

### Zero roaming

Distributed architecture, **zero roaming**, **zero packet loss** for moving STAs

### Wide coverage

Zero roaming for **64** rooms  
**500 m** ultra-long hybrid cable  
**Cross-floor** deployment

### High bandwidth

8T8R multi-concurrency, 1.8 Gbps network bandwidth

### Three-network convergence

Converged deployment for the intranet, extranet, and IoT network  
**60% ↓** TCO

**No counterpart solution is available for vendors C and A.**



# WLAN Differentiator 3: Industry's First Enterprise-Class Wi-Fi 7, Creating a New Era of Ultimate Experience

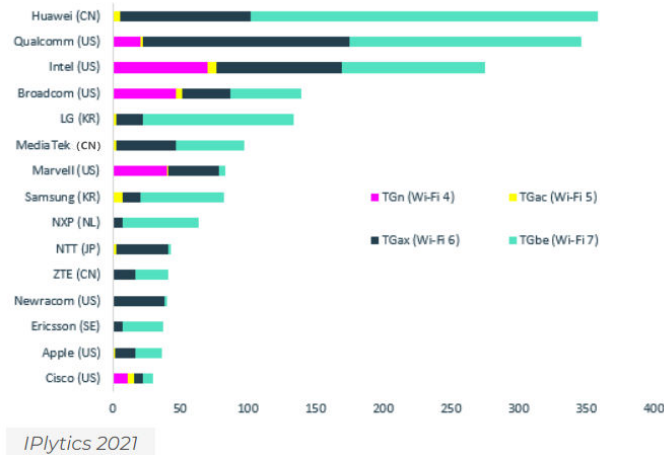
## AirEngine 8771-X1T

AirEngine 8771-X1T



- 4 (2.4 GHz) + 4 (5 GHz) + 4 (5/6 GHz, switchable)
- Theoretical rate: 18.67 Gbps
- Ports: 2 x 10GE electrical + 1 x SPF+ (hybrid cable)

Wi-Fi 4 to Wi-Fi 7 standard contributions: **Top 1**



Enterprise office



Education

## Product competitiveness

### Huawei-only

### 500 Mbps @ Anywhere



**120** channels of HD videos without frame freezing  
 Typical office scenario: 30-channel HD conference  
 + **500** Mbps anytime anywhere

### Superb performance

18.67 Gbps vs. 10.75 Gbps, twice the bandwidth of Wi-Fi 6  
 On-demand multi-radio switching



### Super-strong signal

Third-generation dynamic-zoom smart antennas, 30% higher performance than the industry average



### Ultra-low latency

Latency < 10 ms, no frame freezing in VR conferences



# WLAN Differentiator 4: Cooperation with MSPs to Expand Sales Boundaries, Enable Partners, and Expand the Run-Rate

Two new products, stronger competitiveness, and ultimate cost-effectiveness



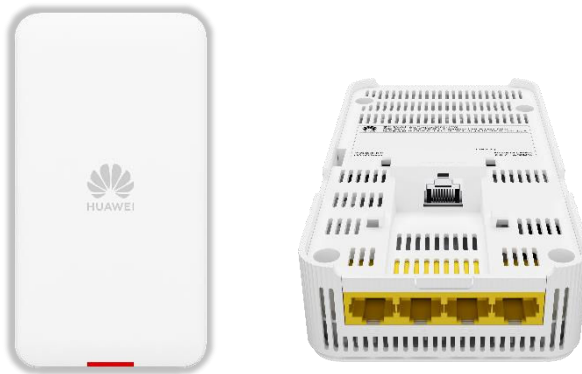
AirEngine 5762-10

### Competitiveness

Ultra-fast 3000 Mbps  
vs. *No (vendor C/A)*

Smart antennas, zero coverage holes

180 mm, compact and elegant



AirEngine 5762-17W

Ultra-fast 3000 Mbps  
vs. *No (vendor C/A)*

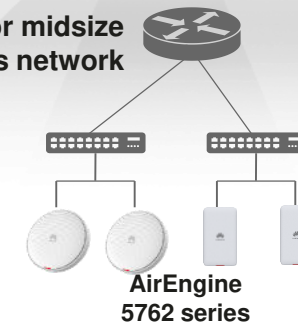
Smart antennas, zero coverage holes

Abundant ports

MSP cloud Wi-Fi as the breakthrough point to expand the sales boundary



Small or midsize campus network



AirEngine 5762 series

### All-scenario coverage

**AirEngine series APs**  
Fully-wireless continuous networking, no rate limit for applications, zero service interruption



Retail

### All-cloud management

**NCE-Campus**  
Exclusive automatic network provisioning and policy deployment covering LAN and WAN



Primary/Secondary education

### All-intelligent O&M

**CampusInsight**  
AI-powered user, network, and application experience assurance and fault self-healing


































Hotel













SME office

# GTM of 6 New WLAN Models (3 Differentiators + 3 Cost-Effectiveness Models) with Assured Supply: Better Adapting to More Specific Scenarios

Wi-Fi 6 (802.11ax) indoor AP						Wi-Fi 6 (802.11ax) outdoor AP		Wi-Fi 7 (802.11be) indoor AP	
 <p><b>AirEngine 8760-X1-PRO</b></p> <ul style="list-style-type: none"> <li>Device rate: 10.75 Gbps</li> <li>NSS: 4+12/4+8+4</li> <li>Built-in smart antennas</li> <li>BLE 5.0, two built-in IoT slots</li> <li>2 x 10GE electrical + 10GE optical</li> </ul>	 <p><b>AirEngine 8761-X1</b></p> <ul style="list-style-type: none"> <li>Device rate: 5.95 Gbps</li> <li>NSS: 4+8</li> <li>Built-in smart antennas</li> <li>BLE 5.0, USB external IoT module</li> <li>1 x 10GE electrical + 1 x GE electrical</li> </ul>	 <p><b>AirEngine 6760-X1</b></p> <ul style="list-style-type: none"> <li>Device rate: 10.75 Gbps</li> <li>NSS: 4+8/4+4+4</li> <li>Built-in smart antennas</li> <li>BLE 5.0, two built-in IoT slots</li> <li>1 x 10GE electrical + 1 x GE electrical + 10G optical</li> </ul>	 <p><b>AirEngine 6760-X1E</b></p> <ul style="list-style-type: none"> <li>Device rate: 10.75 Gbps</li> <li>NSS: 4+8/4+4+4</li> <li>External antennas</li> <li>BLE 5.0, two built-in IoT slots</li> <li>1 x 10GE electrical + 1 x GE electrical + 10G optical</li> </ul>	 <p><b>AirEngine 5760-51</b></p> <ul style="list-style-type: none"> <li>Device rate: 5.95 Gbps</li> <li>NSS: 4+4/2+2+4</li> <li>Built-in smart antennas</li> <li>BLE 5.0, two built-in IoT slots</li> <li>1 x 5GE electrical + 1 x GE electrical</li> </ul>	 <p><b>AirEngine 6761-21T</b></p> <ul style="list-style-type: none"> <li>Device rate: 6.58 Gbps</li> <li>NSS: 2+2+4</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>1 x 2.5GE electrical + 1 x GE electrical</li> </ul>	 <p><b>AirEngine 8760R-X1</b></p> <ul style="list-style-type: none"> <li>Device rate: 10.75 Gbps</li> <li>NSS: 8+8/4+12</li> <li>Built-in smart antennas</li> <li>BLE 5.0, PoE out</li> <li>1 x 10GE electrical + 1 x GE electrical + 1 x 10G SFP+</li> </ul>	 <p><b>AirEngine 8760R-X1E</b></p> <ul style="list-style-type: none"> <li>Device rate: 10.75 Gbps</li> <li>NSS: 8+8/4+4+4</li> <li>External antennas</li> <li>BLE 5.0, PoE out</li> <li>1 x 10GE electrical + 1 x GE electrical + 1 x 10G SFP+</li> </ul>	 <p><b>AirEngine 8771-X1T</b></p> <ul style="list-style-type: none"> <li>Device rate: 18.67 Gbps</li> <li>Spatial stream: 4+4+4</li> <li>Built-in dynamic-zoom smart antennas</li> <li>BLE 5.2</li> <li>2 x 10GE electrical port + 1 x 10GE optical port</li> </ul> <p><b>NEW</b> 23/09 Differentiator</p>	
 <p><b>AirEngine 6761-21</b></p> <ul style="list-style-type: none"> <li>Device rate: 3.55 Gbps</li> <li>NSS: 4+4</li> <li>Built-in dynamic-zoom smart antennas</li> <li>BLE 5.0</li> <li>1 x 2.5GE electrical + 1 x 10GE optical</li> </ul>	 <p><b>AirEngine 6761-21E</b></p> <ul style="list-style-type: none"> <li>Device rate: 3.55 Gbps</li> <li>NSS: 4+4</li> <li>External antennas</li> <li>BLE 5.0</li> <li>1 x 2.5GE electrical + 1 x 10GE optical</li> </ul>	 <p><b>AirEngine 5761-21</b></p> <ul style="list-style-type: none"> <li>Device rate: 5.38 Gbps</li> <li>NSS: 2+4</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>1 x 2.5GE electrical + 1 x GE electrical</li> </ul>	 <p><b>AirEngine 5761-11</b></p> <ul style="list-style-type: none"> <li>Device rate: 1.77 Gbps</li> <li>NSS: 2+2</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>1 x GE electrical</li> </ul>	 <p><b>AirEngine 5762-12</b></p> <ul style="list-style-type: none"> <li>Device rate: 2.98 Gbps</li> <li>NSS: 2+2</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>1 x GE electrical</li> </ul>	 <p><b>AirEngine 5761-12</b></p> <ul style="list-style-type: none"> <li>Device rate: 1.77 Gbps</li> <li>NSS: 2+2</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>2 x GE electrical</li> </ul>	 <p><b>AirEngine 5762-10</b></p> <ul style="list-style-type: none"> <li>Device rate: 2.98 Gbps</li> <li>NSS: 2+2</li> <li>Built-in smart antennas</li> <li>1 x GE electrical</li> </ul> <p><b>NEW</b> 23/03 Cost-effectiveness</p>	 <p><b>AirEngine 6760R-51</b></p> <ul style="list-style-type: none"> <li>Device rate: 5.95 Gbps</li> <li>NSS: 4+4</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>1 x 5GE electrical + 1 x GE electrical + 1 x 10G optical</li> </ul>	 <p><b>AirEngine 6760R-51E</b></p> <ul style="list-style-type: none"> <li>Device rate: 5.95 Gbps</li> <li>NSS: 4+4</li> <li>External antennas</li> <li>BLE 5.0</li> <li>1 x 5GE electrical + 1 x GE electrical + 1 x 10 optical</li> </ul>	<p><b>WAC</b></p>  <p><b>AC6805</b></p> <ul style="list-style-type: none"> <li>Forwarding performance: 120 Gbps</li> <li>Maximum number of manageable APs: 6K</li> <li>Maximum number of access STAs: 64K</li> </ul>
<p><b>Wi-Fi 6 (802.11ax) wall plate AP</b></p>  <p><b>AirEngine 5761-12W</b></p> <ul style="list-style-type: none"> <li>Device rate: 1.77 Gbps</li> <li>NSS: 2+2</li> <li>Built-in smart antennas</li> <li>BLE 5.0, PoE out</li> <li>Uplink: 1 x GE electrical port Downlink: 4 x GE + 2 x RJ45 pass-through</li> </ul>			 <p><b>AirEngine 5761-11W</b></p> <ul style="list-style-type: none"> <li>Device rate: 1.77 Gbps</li> <li>NSS: 2+2</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>Uplink: 1 x GE electrical port Downlink: 4 x GE + 2 x RJ45 pass-through</li> </ul>	 <p><b>AirEngine 5762-15HW</b></p> <ul style="list-style-type: none"> <li>Device rate: 2.98 Gbps</li> <li>NSS: 2+2</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>Upstream 1 x 2.5GE optical or GE hybrid port</li> <li>Downlink 4 x GE</li> </ul>	 <p><b>AirEngine 5762-13W</b></p> <ul style="list-style-type: none"> <li>Device rate: 2.98 Gbps</li> <li>NSS: 2+2</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>Uplink 1 x GE electrical</li> <li>Downlink 1 x GE electrical</li> </ul> <p><b>NEW</b> 23/03 Cost-effectiveness</p>	<p><b>Wi-Fi 6 (802.11ax) agile distributed AP</b></p>  <p><b>10GE central AP AirEngine 9700D-M1</b></p> <ul style="list-style-type: none"> <li>Forwarding performance: 40 Gbps</li> <li>Uplink: 4 x 10GE; downlink: 24 x GE</li> <li>Device management capability: 48 RUs</li> <li>Association of 4K STAs and concurrent access of 1K STAs</li> </ul>  <p><b>RU AirEngine 5761-11WD</b></p> <ul style="list-style-type: none"> <li>Device rate: 1.77 Gbps</li> <li>NSS: 2+2</li> <li>Built-in smart antennas</li> <li>BLE 5.0</li> <li>Uplink: 1 x GE electrical; downlink: 4 x GE electrical + 2 x RJ45 pass-through</li> </ul>	<p><b>Wi-Fi 6 distributed Wi-Fi</b></p>  <p><b>DAP AirEngine 9700D-S</b></p> <ul style="list-style-type: none"> <li>Theoretical rate: 10.75 Gbps</li> <li>8 x hybrid port</li> <li>4 x Wi-Fi SAM + 4 x IoT SAM</li> <li>Uplink: 1 x 10GE optical + 2 x 2.5GE electrical</li> </ul>  <p><b>ORU AirEngine 5760-11DH</b></p> <ul style="list-style-type: none"> <li>8 x SMA</li> </ul> <p><b>NEW</b> 23/09 Differentiator</p>	<p><b>Wi-Fi 6 (802.11ax) scenario-specific AP</b></p>  <p><b>AirEngine 5761-11E1</b></p> <ul style="list-style-type: none"> <li>Device rate: 1.77 Gbps</li> <li>NSS: 2+2</li> <li>Intrinsically safe, wide temperature range: -40°C to +70°C</li> <li>2 x GE electrical + 2 x GE optical</li> </ul>  <p><b>AirEngine 6760-51E1</b></p> <ul style="list-style-type: none"> <li>Device rate: 4.8 Gbps</li> <li>Spatial stream: 4</li> <li>External antennas</li> <li>1 x 5GE electrical + 1 x GE electrical + 1 x 10GE optical</li> </ul>  <p><b>Wi-Fi 6 CPE</b></p> <ul style="list-style-type: none"> <li>Device rate: 2.98 Gbps</li> <li>NSS: 2+2</li> <li>External antennas</li> <li>4 x GE electrical</li> </ul>	 <p><b>AirEngine 9700-M1</b></p> <ul style="list-style-type: none"> <li>Forwarding performance: 120 Gbps</li> <li>Maximum number of manageable APs: 2K</li> <li>Maximum number of access users: 32K</li> </ul>  <p><b>AC6508</b></p> <ul style="list-style-type: none"> <li>Forwarding performance: 10 Gbps</li> <li>Maximum number of manageable APs: 512</li> <li>Maximum number of access users: 4K</li> </ul>

# Huawei Provides All-Optical Transmission Network Portfolios

<p><b>Solutions</b></p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>ISP</p> </div> <div style="text-align: center;">  <p>Energy</p> </div> <div style="text-align: center;">  <p>Finance</p> </div> <div style="text-align: center;">  <p>Transportation</p> </div> <div style="text-align: center;">  <p>Government</p> </div> <div style="text-align: center;">  <p>Education</p> </div> </div>					
<p><b>Products</b></p>	<p><b>Backbone DWDM Products</b></p> <div style="text-align: center;">  <p><b>E9624:</b> 10T Level Backbone DWDM MS-OTN Platform</p> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p><b>E9612 / E9605:</b> Super C All-optical Platform</p>	<p><b>Metro&amp;Access DWDM Products</b></p> <div style="text-align: center;">  <p><b>E6616/E6608:</b> Large-capacity MS-OTN Compact Equipment</p> </div> <div style="text-align: center; margin-top: 20px;">  <p><b>E6608T :</b> Ultra-integrated and simplified All-optical Platform</p> </div>	<p><b>Data Center Interconnect</b></p> <div style="text-align: center;">  <p><b>DC908:</b> Ultra broadband / High Integration / Intelligence Date Center Interconnect Device</p> </div>			

# Huawei End-to-End All-Optical Access Network Portfolio



ISP



Safe City



Electricity




Transportation




Education


## Huawei All-Optical Access Network



**EA5800 Series**  
First smart aggregation OLT with a distributed architecture in the industry



**EA5801-GP08/GP16**  
Compact and low-density box-shaped OLT




**EA5801s**  
10GPON ready outdoor compact blade OLT


OLT



SSC2802-TM-8 (8 ports)    SSC2811-SM-9U (8 ports)    SSC2811-SM-8 (8 ports)




**Out-door**



**HUB BOX**    **SUB BOX**

Hubbox FDB2110SI-8M    Subbox FDB2110SI-8




**In-door**

New generation ODN solution with pre-connect, visualization and manageability


Digital Quick-ODN

**EN800 /EG800 /K500/W600 Series (Home ONT)**  
Full-scenario WiFi 6




EN8145X6    EG8145X6    EG8145V5    K562E    EG8040H5

**B800/B600 Series (Private-line CPE)**  
Enterprise Cloudification




B850G/B650G    B610

**P800E/P600E Series (POL ONU)**  
Full-specifications



P813E    P812E    P613E

**T800E/T600E Series (Industrial ONU)**  
Dedicated for industrial, high reliability



OptiXstar S892E    T863E    PowerCube500 (T672E-150G1)

ONU/ONT

# Intelligent Data Storage Portfolio

## Data Management

### Device Management



DeviceManager

### Data Management Engine



DME

### Intelligent O&M



eService

## Intelligent Storage

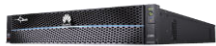
### All-Flash Storage & Backup Storage



OceanStor Dorado  
18000



OceanStor Dorado  
8000

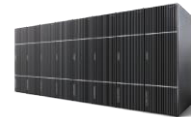


OceanStor Dorado  
6000/5000/3000/2000



OceanProtect

### Hybrid Flash Storage



OceanStor 18500/18800



OceanStor 6800



OceanStor  
5300/5500/5600/5800



OceanStor  
2600

### Mass Data Storage



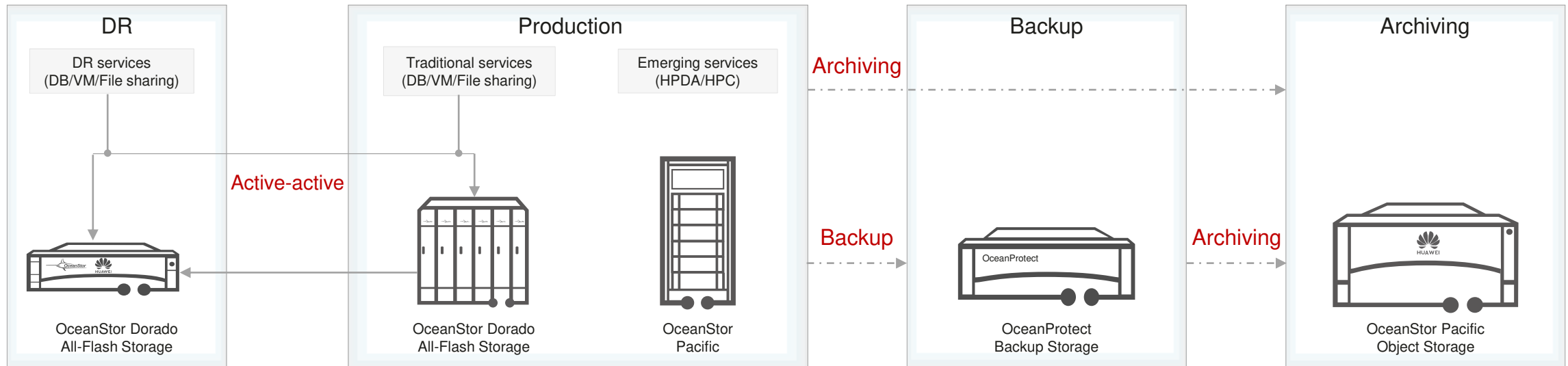
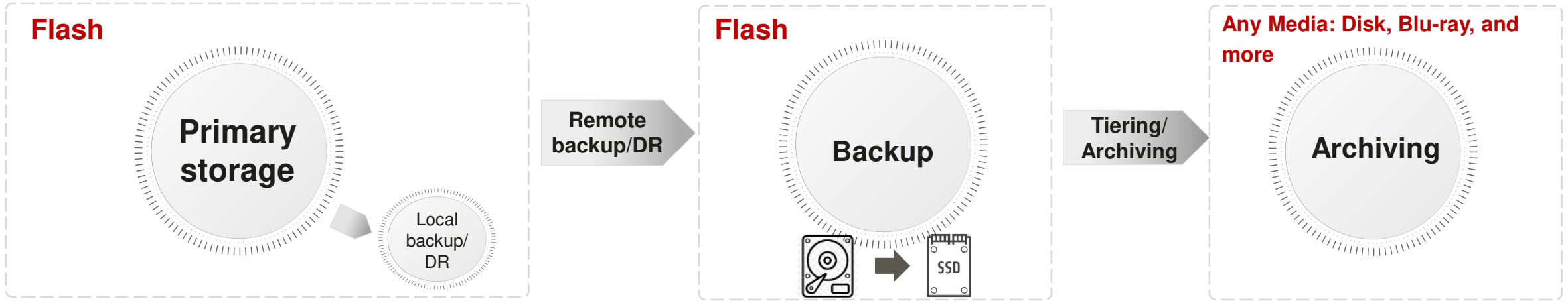
OceanStor Pacific Series



OceanStor 9000

# Storage: the Foundation of Data Centers

F2F2X: Flash To Flash To Anything

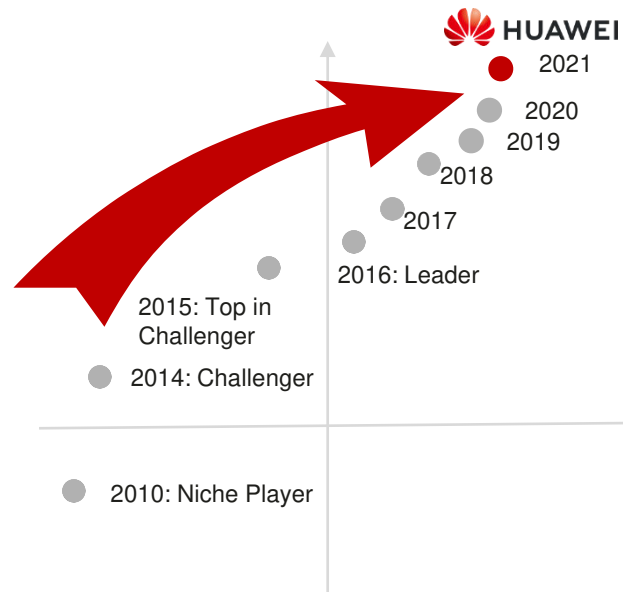


# Primary Storage: OceanStor Dorado All-Flash Storage



# Industry Position: Leader in Gartner's Magic Quadrant, No.3 in the Global Storage Market Share

## Gartner Magic Quadrant: Leader (2016 - 2021)



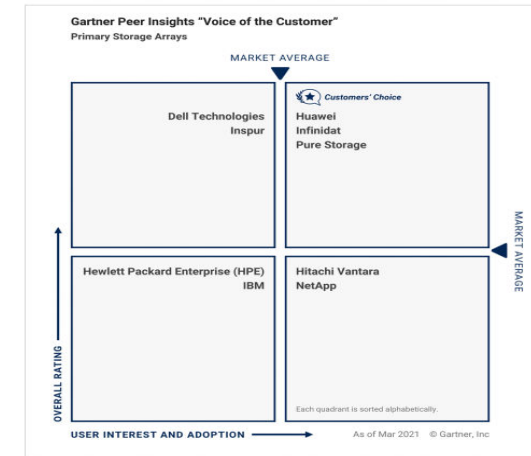
## Interop Grand Prize The Server & Storage category



**INTEROP** A major event in global business technology that recognizes the most competitive products

## Gartner Peer Insights Customers' Choice Top 1 primary storage vendor

Figure 1. Gartner Peer Insights "Voice of the Customer" Primary Storage Arrays



Source: Gartner (May 2021)

**Gartner** The world's most recognized IT research and consulting company that is considered as an authoritative source of objective technical thought leadership

### Success stories

#### Government

Justiça Federal, Brazil  
Federal Board of Revenue, Pakistan  
Algerian Tax Authority

### Global

#### Finance

Central Bank of Brazil  
DBS Bank, Singapore  
NCB, Saudi Arabia

#### Large enterprise

Sonatrach, Algeria  
Yahoo, Japan  
Saudi Aramco, Saudi Arabia

#### Government

Social Insurance Institution of Poland  
Western Norway Regional Health Authority  
Dutch Tax and Customs Administration

### Europe

#### Finance

Widiba, Italy  
İşbank, Turkey  
Piraeus Bank, Greece

#### Large enterprise

Volkswagen, Germany  
PSA Peugeot Citroën, France  
Scania, Sweden

# Cutting-Edge Solutions: Innovative E2E Acceleration Platform with the Highest Performance and Reliability of SAN & NAS in the Industry

**E2E acceleration  
for premium  
performance**



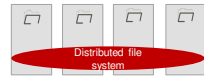
Full-mesh architecture: the only series in the industry that tolerates failure of seven out of eight controllers

→ **Always-on services**



Efficient protocols: E2E NVMe provides high performance.

→ **50% lower access latency**



Distributed file system: Fully unleashes system capabilities.

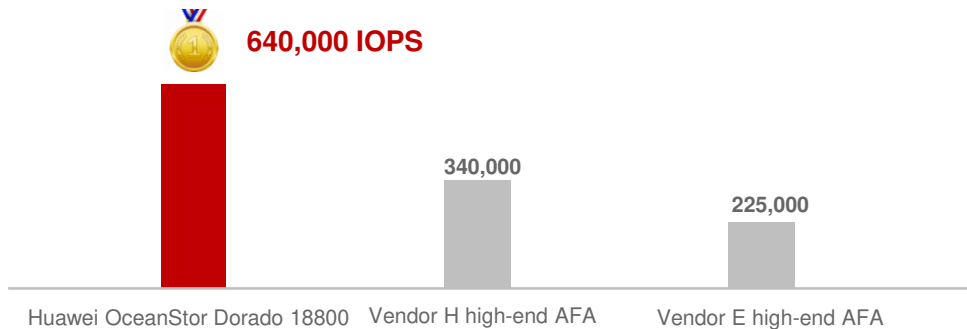
→ **30% higher NAS performance**

**FlashLink®**

Algorithm acceleration: Intelligent algorithms collaborate with SSDs and controllers to maximize flash performance.

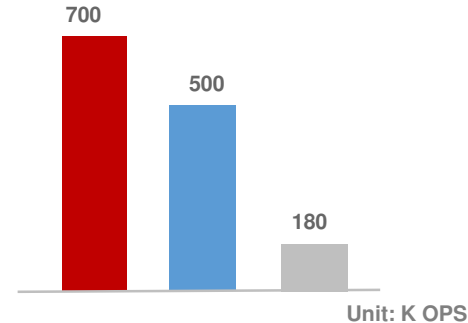
→ **20x faster data reconstruction**

**High performance in database scenarios**



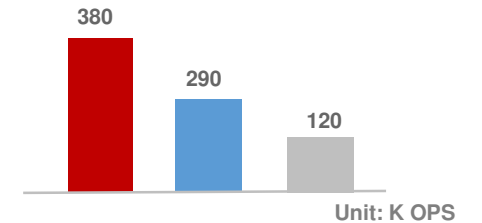
Test conditions: dual controllers, 7:3 read/write, 80% space occupied, data reduction enabled, 1 ms latency

**40% higher in large files and small I/Os**

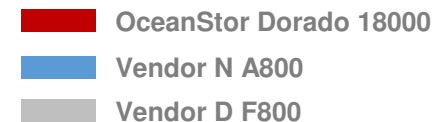


Test conditions: dual controllers, 512 20 GB large files, 8 KB small I/Os, 7:3 read/write

**30% higher in small files and small I/Os**



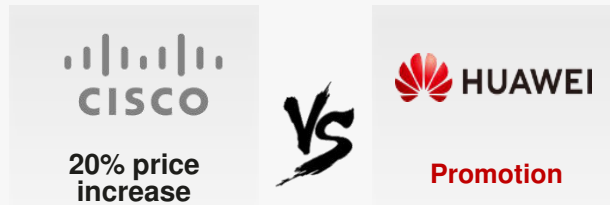
Test conditions: dual controllers, 40 million 8 KB small files, 5-layer directories, 8 KB small I/Os, and 7:3 read/write



# We respond to customers and partners quickly through Fast Track programs

## Price : cost-effective

Select best-selling product models and set **friendly prices** based on customer requirements and historical prices to **provide more discounts to customers and partners**.



Sharing profits with customers/partners

## Lead time : fast delivery

Supply chain collaboration: Suppliers prepare selected products at the same time. **Set a goods preparation baseline and implement rolling preparation of goods to shorten lead times.**



Respond quickly and meet requirements

## Marketing : win-win results

Cooperate with partners to increase the scope and influence of those programs to **let them benefit more customers and partners**.



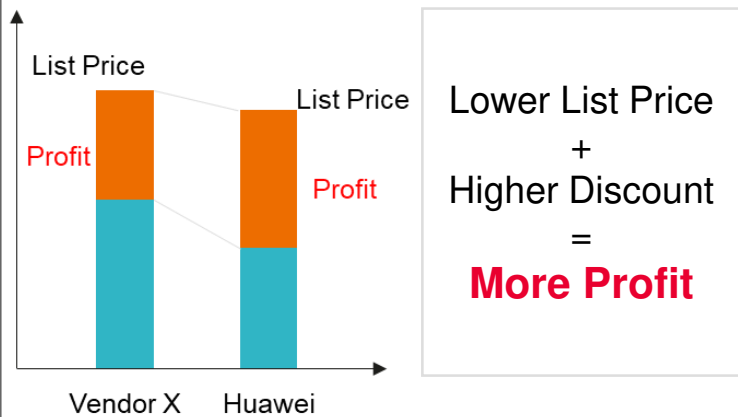
Expand the influence for win-win results

# Fast Track 3.0 Key Message

Theme

Key Value

## More Profit



### Benefits

Based on 74 off from the main vendor.

- When less than 50K order.  
5000 EUR case. 900 EUR more profit.  
50K order. **9K more profit.**
- When between 50K and 100K order.  
5000 EUR case. 1100 EUR more profit.  
100K order. 9K+11K = **20K more profit.**
- When more than 100K order.  
5000 EUR case. 1250 EUR more profit.  
200K order. 9K+11K+25K = **45K more profit.**

## More Opportunity



8 Datacom Scenarios  
+  
4 POL Scenarios  
=  
**More Opportunity**



### Hotel / Hospital

- Multi-Service in 1 network
- Optimal Cost



### School & Dormitory

- Flattened Architecture
- Fewer Nodes, Fewer Faults
- Simplified O&M



### Office Campus

- From Copper Cabling to Optical Fibers + Wireless



### Airport / Train Station

- Anti-Electromagnetic Interference
- Long-Distance Coverage

## More Rapid



Building a Fully Connected, Intelligent World

Choose Speed  
**Light Up Every Home**

Delivery in 4 Weeks **FAST TRACK FTTH**

Huawei FTTH Solution.  
Building a Green Intelligent Gigabit Full-fiber Network



- **Place orders easier.**  
FT quotation in UniStar SCT directly. Place order without special approval.
- **Implementation management easier.**  
CloudCampus APP configuration, Cloud management. No high-tech engineer is required.
- **Financing turnover faster.**  
**2 weeks** Datacom delivery and **4 weeks** FTTH delivery.

# Education: Smart Classroom

Fiber-to-the-desktop, Fan-Free and Quiet Design, and Interactive Teaching Anytime, Anywhere, Simplifying Learning



Hybrid teaching has become a new post-pandemic normal.

An average of 35 students in small classes can enjoy interactive teaching anytime anywhere.

- Students can watch **MOOC** or YouTube videos at **4 Mbps**, without frame freezing.
- **Real-time online services:** courseware (1 GB) can be downloaded within **only 10s**.



Wi-Fi 6

IMaster NCE

CloudEngine



Wired terminal: whiteboard, computer, central controller, etc.

Benefits

## Wi-Fi 6 AP

- **4 Mbps/user**, **35** users in 1 classroom
- Device rate: 6.575 Gbps
- Smart antenna: coverage improved by 20%

## Classroom Switch

- **Fiber**-to-the-desktop
- Fan-free design, natural heat dissipation, and super quietness
- Typical power consumption: **< 8 W**





Product	Device Type	Remarks
Remote Unit	CloudEngine S5731-L-RU	Planning and configuration-free
	AirEngine Wi-Fi 6 AP	Built-in Smart Antenna
Access Switch	S5735-S/L-V2(PoE model)	PoE+/PoE++ for PD(AP,IPC)
Core Switch	S6730-H24X6C	

# Healthcare IoT

## Built-in IoT Card and Wi-Fi & IoT Convergence, Making Medical Services More Efficient

Multi-network convergence, improving healthcare service efficiency

- IoT is a must-have for smart hospitals, with a CAGR of 20% from 2020 to 2025.
- Independent construction of multiple networks results in high costs, poor signals, and difficult maintenance.



 Special wristband  
 Body temperature sticker  
  


**Real-time monitoring of vital signs**


**Infant protection**

**Mobile ward rounds**


Scanner


Asset tag




**IV monitoring**


Patient wristband

**Personnel positioning**

### IoT-Converged AP

- **4-in-1**, supporting IoT modules and USB port for healthcare IoT expansion
- **Zero** interference thanks to RF coordination and channel avoidance



Product	Device Type	Remarks
Wi-Fi 6 AP	AirEngine5761-11/12	General indoor coverage
	AirEngine5761-11W/12W	Wi-Fi coverage in the ward
	AirEngine6761-21T	High-density scenario
Access switch	S5735-S-V2	Dual PS, 48*PoE+
Aggregation/Core	S6730-H	Native AC

# Fully-Wireless Smart Retail

Fully-Wireless Coverage and Guaranteed Key Services Enable Digital Operations and Improve Store Efficiency

## Retail price updates

Paper price updates once or twice per day, requiring 5 to 10 employees and taking 1 hour

## Warehousing

Frequent AGV suspensions due to poor Wi-Fi roaming

## Scanner-based stocktaking

Frequent disconnections due to discontinuous Wi-Fi coverage

## Branch interconnection

Lack of network assurance for key services

### Electronic shelf label (ESL)



Wi-Fi and IoT convergence: fast ESL updates in 1 minute

### Stocktaking



Wi-Fi access for scanners: fast stocktaking by 1 employee in just 2 hours \*

### Warehousing

Wi-Fi 6 AP

IoT-converged  
Wi-Fi 6 AP

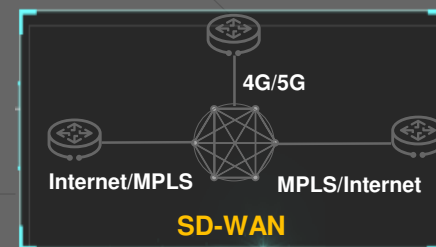
Hyper-converged  
egress router

Branch  
interconnection

### AGVs @ automated warehousing



300 concurrent AGVs in 1000 m<sup>2</sup>  
AGV speed: 5 m/s



SD-WAN dual-link intelligent traffic steering for assured key services

## ESL & Stocktaking

- Built-in dual PCIe slots for IoT cards, **flexible IoT expansion**
- Smart antenna, achieving **zero wireless coverage** hole and improving the coverage range **by 20%**

## AGVs @ Automated Warehousing

- Triple-radio design, 40 terminals per AP, high-density access**
- Lossless roaming, AGV operations at **full speed, zero service interruptions**

## Branch Gateway

- Hybrid uplinks: **cabling-free 4G/5G for remote areas**
- 3-in-1**: integrating switching, routing, and security

Product	Device Type	Remarks
Wi-Fi 6 AP	AirEngine 5761-12	PCIe for IoT Application
	AirEngine 5761-11/21	Economical AP
Access Switch	S5735-S/L-V2(PoE model)	PoE+/PoE++ for PD(AP,IPC)
Access Router	NetEngine AR651	

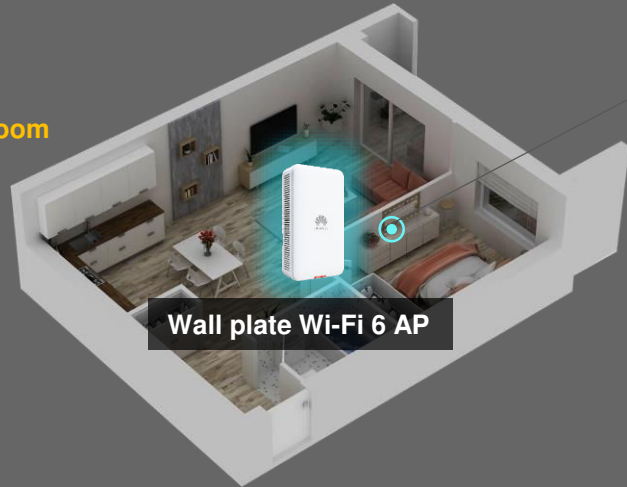
# Fully-Wireless Digital Hotels

Fully-Wireless Coverage, High-Speed Internet Surfing, and Ultimate Customer Satisfaction

**89%** of guests choose hotels based on Wi-Fi experience

**90%** of hotels prefer ubiquitous Wi-Fi coverage

Guest room

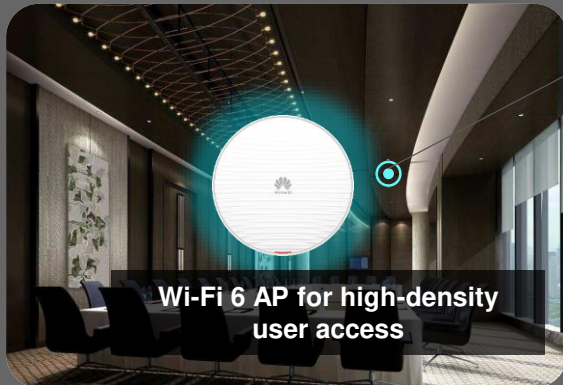


Wall plate Wi-Fi 6 AP



No wireless coverage holes  
Superfast video download in seconds  
AP speed (with only one terminal): **945 Mbps**

Conference room



Wi-Fi 6 AP for high-density user access



High-density wireless access, assured conference experience  
**250 users** per AP, **> 4 Mbps** bandwidth per user

## Wall Plate Wi-Fi 6 AP

- Smart antennas: **20%** greater coverage range, 1 AP for a 40 m<sup>2</sup> room
- PoE+ support, **ensuring power supply to downstream IP phones**

## Wi-Fi 6 AP for High-Density User Access

- Triple-radio design: **6.75 Gbps** rate\*, 4K HD video, 250+ concurrent users supported
- Intelligent multimedia scheduling: **interruption-free** audio and video services

Product	Device Type	Remarks
Wi-Fi 6 AP	AirEngine5761-11/21	Corridor coverage
	AirEngine5761-11W/12W	Guestroom Panel AP Coverage
	AirEngine 6760R-51	Resort Outdoor Coverage
Access switch	S5731-S M-GE(PoE model)	90W Poe++, 1/2.5/5/10Gbps
Aggregation/Core	S6730-H	Native AC



# Fully-Wireless, Intelligent Manufacturing Network

Equipment on the Production Line Goes Wireless, Creating 12 More Days of Production Per Year



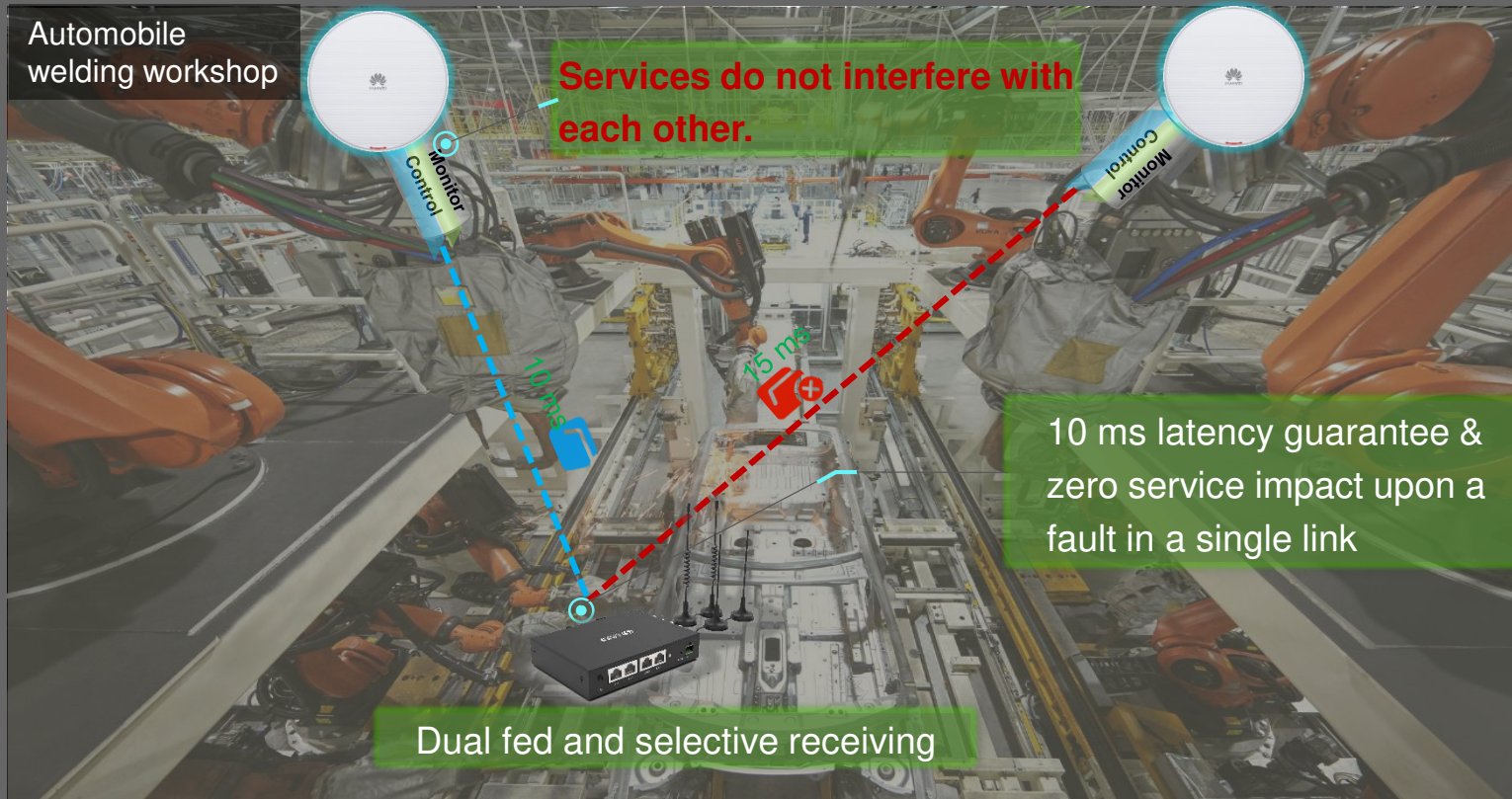
Long wired cables are **easily damaged** due to frequent movement, resulting in unplanned downtime of **30 to 60 min per cable, per month.**



Replacing a large number of long wired cables incurs high labor and material costs: **US\$150 to US\$300 per cable, per month.**

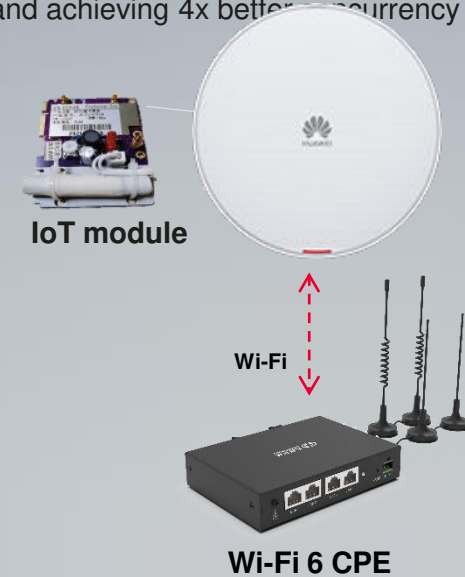


In a typical welding workshop with about 500 robotic welding torches, the cable replacement expenses are over **US\$1.8M/year.**



## Wi-Fi 6 CPE & AP

- **Air interface slicing:** bandwidth reservation and fixed latency capabilities for specific services through dedicated slicing queues
- **Dual fed and selective receiving:** Redundant links and the "first come, first served" policy optimize packet loss and latency during transmission.
- **Wi-Fi 6 CPE:** unique in the industry, 10 ms E2E latency, meeting factory automation requirements and achieving 4x better accuracy than Wi-Fi 5



Product	Device Type	Remarks
Wi-Fi 6 AP	AirEngine 6761-21/21T	Built-in Smart Antenna
	AirEngine Wi-Fi 6 CPE	
Access switch	S5735-S/L-V2(PoE model)	24/48*GE PoE+ ports
Aggregation/Core	S6730-H(Optical Model)	

# POL Accelerating Digital Education

## Challenges

- Cloud education and E-learning demand reliable networks that can support large bandwidths and smooth volution.
- Campuses require full Wi-Fi coverage, uniform wired/wireless authentication, and seamless roaming.
- Campuses need cloud desktops, uniform bearing for multi-service, and simplified network planning, cabling, and O&M.

### Classroom/Offices



### Accommodation



### Safe Campus



## Solution Highlights

- **100Mbps @ Everywhere.** Wi-Fi6 powered by full fiber backhaul for 100M connection.
- **1 Terminal @ 1 Room.** All-in-one CPE: Integrates with POTS, HSI, CCTV, Wi-Fi.
- **1 Day Service Ready.** Terminal Plug-and-Play, one-click service provisioning.

### PoE ONU



### Wi-Fi 6 ONU



Product	Model	Remark
OLT	EA5801-GP04	4*GPON port
ONU	W626E	4*GE+1*POTS+2.4G/5 G Wi-Fi 6+1USB
	P612E	4*GE(PoE/PoE+)
Switch	S5731-H24T4XC	24*GE

# POL Provides Simple, Reliable & Flexible Hotel Networks

## Challenges

- Multiple cables per room. The deployment is complex, incurring many fault points.
- Overlapped networks cause increasing maintenance costs and difficult transformation.
- The power consumption of many devices and air conditioners is high, resulting in high OPEX.

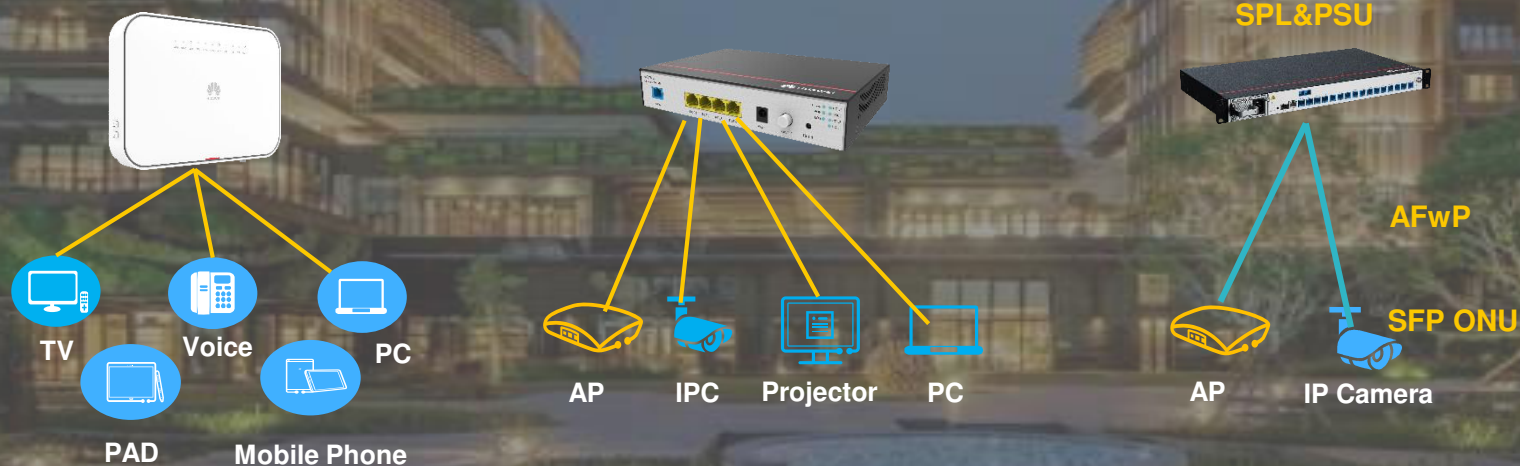
### Guest Room



### Office/Meeting Room



### Public Area/Lobby

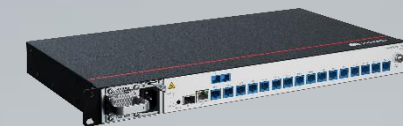


## Solution Highlights

- **Best TCO.** ~30% CAPEX & OPEX Saving.
- **1 Fiber for 1 Room.** Smart hotel service: POTS, HSI, CCTV, Wi-Fi, RCU.
- **Wi-Fi "0" Interruption.** Wi-Fi 6 L2 / L3 seamless roaming, the best experience.

### PSU

(Power Supply Unit)



### AFwP

(Advanced Fiber with Power)



### SFP ONU



Product	Model	Remark
OLT	EA5801-GP04	4*GPON port
ONU	W626E	4*GE+1*POTS+2.4G/5 G Wi-Fi 6+1USB
	P612E	4*GE(PoE/PoE+)
Switch	S5731-H24T4XC	24*GE

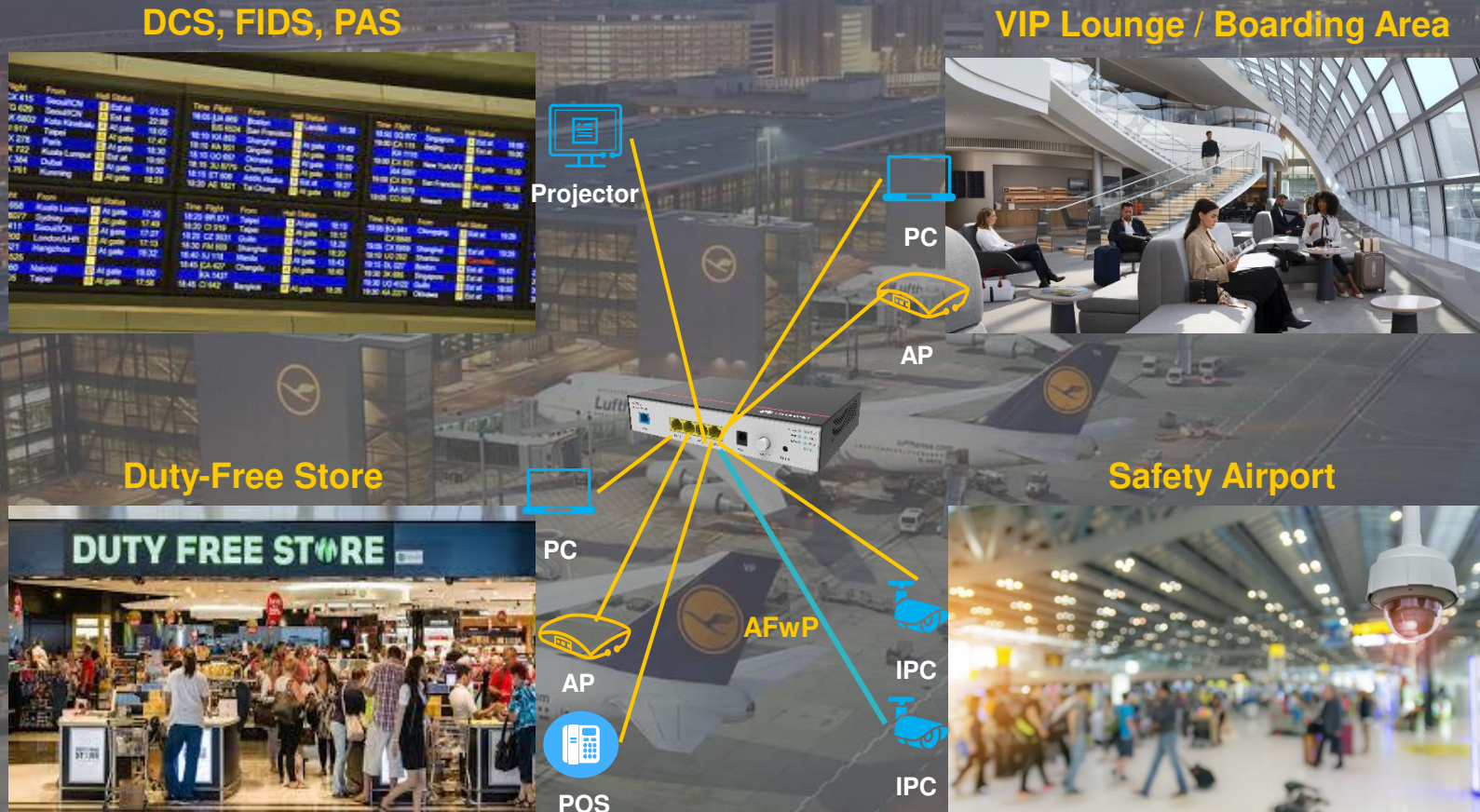
# POL Improves Airports Service and Experience

## Challenges

- Complex network management.
- Service security control.
- Slow provisioning of new services.
- Long-distance coverage.
- Outdoor scenarios.

## Solution Highlights

- **Up to 40km Coverage**, Reduces 80% ELV equipment room. Improves deployment efficiency by 60%.
- **Ultimate Wi-Fi Experience**, Wi-Fi 6 100M anywhere, high concurrency, and VIP user experience assurance.
- **Smart O&M**, Visualized full journey experience of each client at every moment.



## Industry ONU



## Outdoor ONU (integrated site)



Product	Model	Remark
OLT	EA5800-X2	32*GPON port
ONU	W626E	4*GE+1*POTS+2.4G/5G Wi-Fi 6+1USB
	T863E	Outdoor ONU
	P612E	4*GE(PoE/PoE+)
Switch	S5731-H24T4XC	24*GE

# K562, Extend Wi-Fi Coverage for Home network



Huawei OptiXstar K562 is a **dual-band edge ONT** that supports gigabit access over both **Wi-Fi 6** and Ethernet gigabit network ports.

- ✓ Embedded AI (eAI) acceleration for value-added services, such as online games, online education, and teleconference
- ✓ Next-generation Wi-Fi 6 MU-MIMO technology
- ✓ VR/4K over Wi-Fi
- ✓ 160 MHz channel width
- ✓ Strong anti-interference capability, wide coverage, and network self-healing
- ✓ One-click pairing and automatic networking
- ✓ Ethernet port auto-sensing for LAN or WAN mode
- ✓ Mesh network (tree type)
- ✓ Remote management, installation and maintenance APP management, and user APP management

Distribution Scenario



OptiXstar K562

Wi-Fi 6 Edge ONT

<b>Interface</b>	NNI: Wi-Fi or GE UNI: <ul style="list-style-type: none"><li>● <b>Wi-Fi uplink:</b> 3GE + 2.4GHz&amp;5GHz Wi-Fi 6</li><li>● <b>GE uplink:</b> 2GE + 2.4GHz&amp;5GHz Wi-Fi 6</li></ul>
<b>Antenna type</b>	6 internal antennas
<b>Supported Protocol</b>	IEEE 802.11 ax (2.4GHz&5GHz)
<b>Others</b>	WMM(Wi-Fi Multimedia); Beamforming; Band steering;1024-QAM, 160 MHz channel width, WPA3, and DL MU MIMO



# MiniFTTO Solution Introduction and Target Scenarios

## MiniFTTO Network



### SME office

**Number of users:** 10-100  
**Building characteristics:** single-floor or multi-floor, large open areas + multiple compartments  
**Typical users:** SMEs in independent office buildings



### Convenient Stores

**Number of users:** 20-100  
**Building characteristics:** single-story building, dense population, and large burst traffic  
**Typical users:** chain convenience stores and supermarkets



### Warehouse

**Number of users:** 20-100  
**Building characteristics:** single layer, dense personnel, and large burst traffic  
**Typical users:** logistics warehouse, storerooms



### Commercial Villa

**Number of users:** 5-30  
**Building characteristics:** multi-floors + multi-rooms, dense personnel, and a large number of terminals  
**Typical users:** medium and large villas, live video streaming



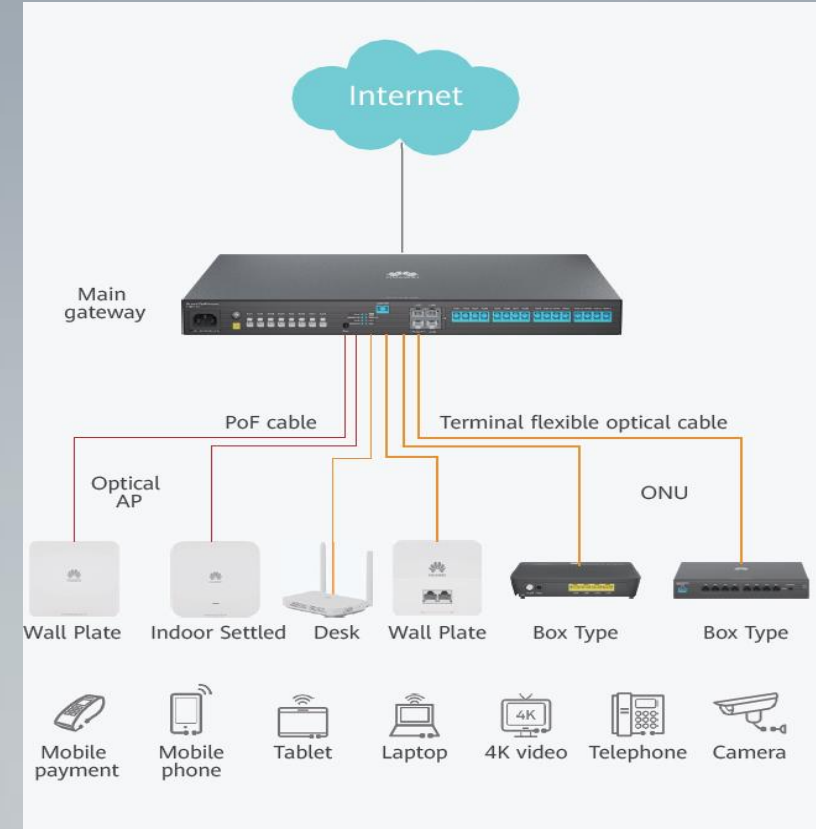
### Express Hotel

**Number of users:** 20-100  
**Building characteristics:** multi-store and multi-room, dense rooms, high requirements for real-time video backhaul  
**Typical users:** E-sports hotels, Express hotels



### Preschool Education

**Number of users:** 30-100  
**Building characteristics:** 2-3 floors, no more than 10 rooms on each floor  
**Typical users:** kindergartens, training institutions



### Solution Value:

- ✓ Superior Experience
  - Seamless Roaming
  - High Concurrency
  - Large Bandwidth
- ✓ Simplified Deployment
  - Plug and Play
- ✓ Easy O&M
  - WebGUI Management, NMS free

# Thank you.

把数字世界带入每个人、每个家庭、  
每个组织，构建万物互联的智能世界。

Bring digital to every person, home and  
organization for a fully connected,  
intelligent world.

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