The Wireless Fabric for Connecting the Unconnected

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Head Presales- India & SAARC

Cambium Networks™

a **7.5** Billion people Mission / TAM

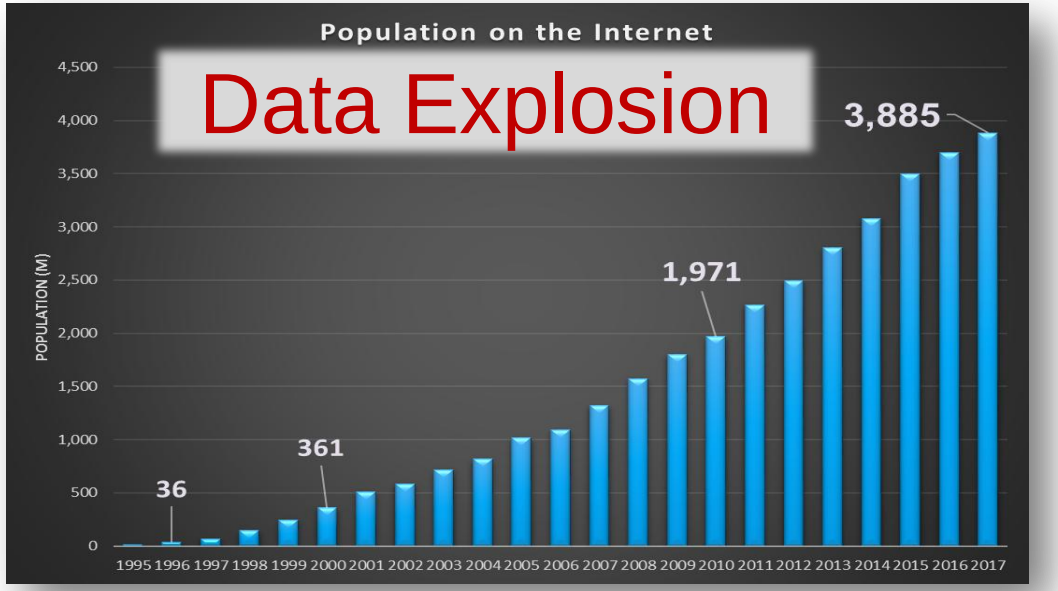
3.5 Billion

CONNECTED

+

4 Billion

UNCONNECTED



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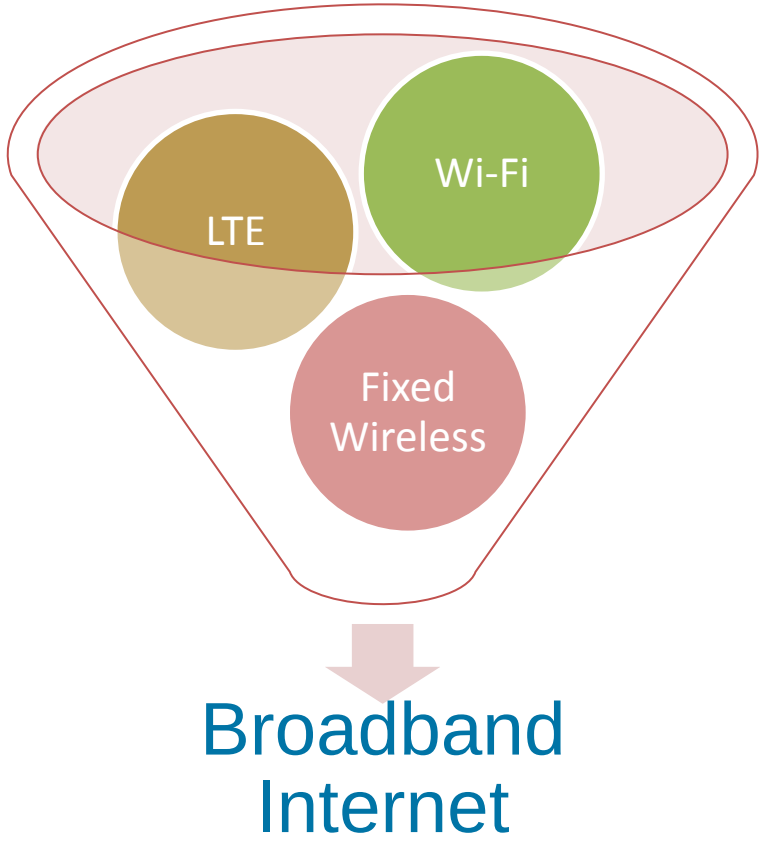
Connect the Unconnected – Mix of technologies

- **Mix of LTE Cellular and Wi-Fi ISP operators**
  - Fiber backhaul
  - Fixed wireless backhaul
  - Broadband and Narrowband
- **Indoor and outdoor coverage**
  - Consumption is predominantly indoors
  - Outdoor Wi-Fi is making a come back (proven)
- **Wi-Fi is perfect for 'Wi-Fi as a service' (WaaS)**
  - Wi-Fi technology is "neutral host"
  - Hotspot 2.0 makes connecting to Wi-Fi as easy as cellular roaming



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Wi-Fi is the prime wireless reality of today

65%

Nomadic

Use their phones at home and outside

71%

Wi-Fi

of all mobile communication on Wi-Fi

1.4

Zettabytes

Worldwide data via Wi-Fi in 2017

that's … 10^{21} bytes

36 Million years worth of HD DVD!

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India: an Internet connected economy

Telecom subscribers (Jan 2017)

1,102.94 million	World's fastest growing telecom network

Internet user base (feb 2017)

462 million	2nd largest user base overtaking the US

Mobile data consumption

88000 Pb	8.8 EB of data was consumed in 2016 (Ericsson estimates)

2.3 Mn Petabytes digital data

600 Mn Internet Users

520 Mn Smartphone Users

90% Tech Influenced SMBs

$ 19+ Bn Digital investments By Govt.

100 Smart Cities

Source: Deloitte, IAMAI, IBEF, Nokia, TRAI, Zinnov, Secondary sources

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Connecting the Unconnected – The challenge in India

https://www.internetworldstats.com/top20.htm

TOP 20 COUNTRIES WITH HIGHEST NUMBER OF INTERNET USERS - DECEMBER 31, 2017

#	Country or Region	Population, 2018 Est.	Internet Users 31 Dec 2017	Internet Penetration	Growth 2000 - 2017	Facebook 31 Dec 2017
1	China	1,415,045,928	772,000,000	54.6 %	3,331.1 %	1,800,000
2	India	1,354,051,854	462,124,989	34.1 %	9,142.5 %	241,000,000
3	United States	326,766,748	312,322,257	95.6 %	227.5 %	240,000,000
4	Brazil	210,867,954	149,057,635	70.7 %	2,881.2 %	139,000,000
5	Indonesia	266,794,980	132,700,000	49.7 %	6,535.0 %	126,000,000
6	Japan	127,185,332	118,626,672	93.3 %	152.0 %	26,000,000

Low internet penetration. High inherent demand

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Smart City, Smart Village Goals

- **Provide a Higher Standard of Living to Citizens**
  - Government Responsiveness
  - Citizen Access to information
  - Closing the Digital Divide
  - Create new business opportunity
- **Efficiency and economics of automation**
  - Reduce loss and waste
  - Reduce service outage and repair times
  - Reduce communication costs
  - Operation continuity / disaster recovery
- **Improve operational security**
  - Personnel safety
  - Asset protection
  - Cyber threat avoidance
- **Revenue Generation**
  - Advertising
  - Agriculture, Warehousing precision monitoring
  - Facility Utilization
  - Access
  - Processing Fees

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Connecting the Unconnected

People, Places & Things

affordably

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Connecting the Unconnected – THE WIRELESS FABRIC

People

4 billion
unconnected

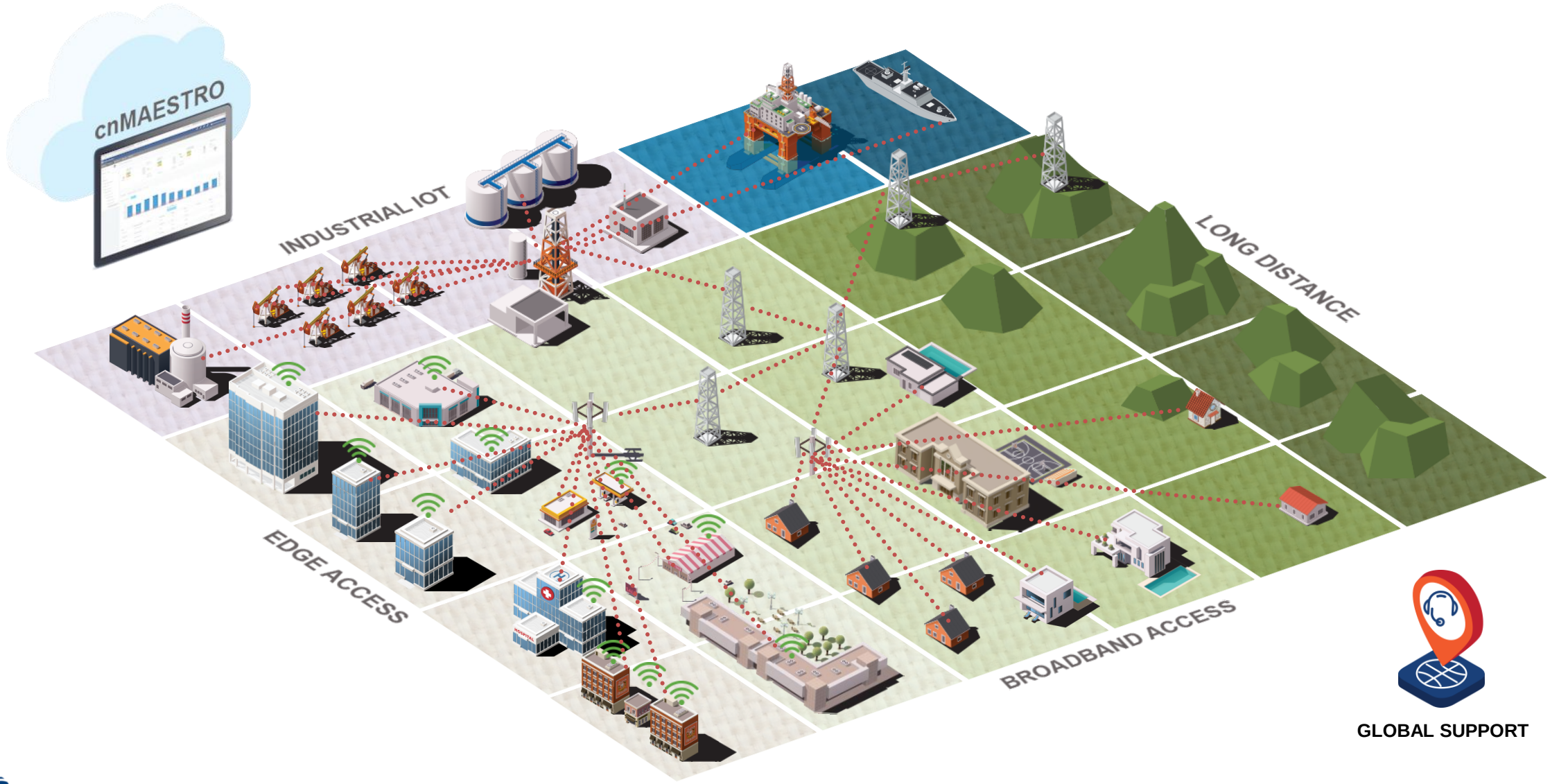
Places

2m – 245 km
without wires

Things

Fixed wireless footprint to usher emerging SmartCity/IIOT

Cambium Networks' Wireless Fabric



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Innovating, Growing, … Having Fun

Spectrum efficiency

Unified Cloud Management

Frictionless Affordable Wi-Fi

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Massive MU-MIMO

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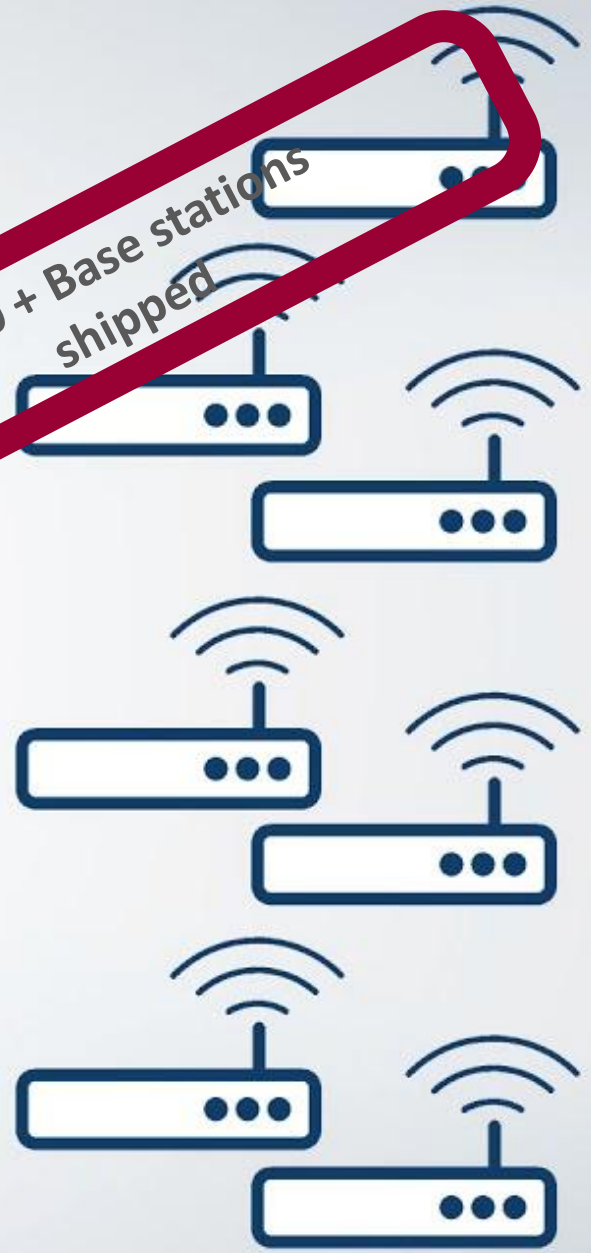
PMP 450m

3,000 + Base stations shipped



14x14 High Density

Spectrum Efficiency 50+ bits/Sec/Hz

1.2 Gig in a 40 MHz Channel

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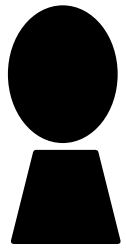
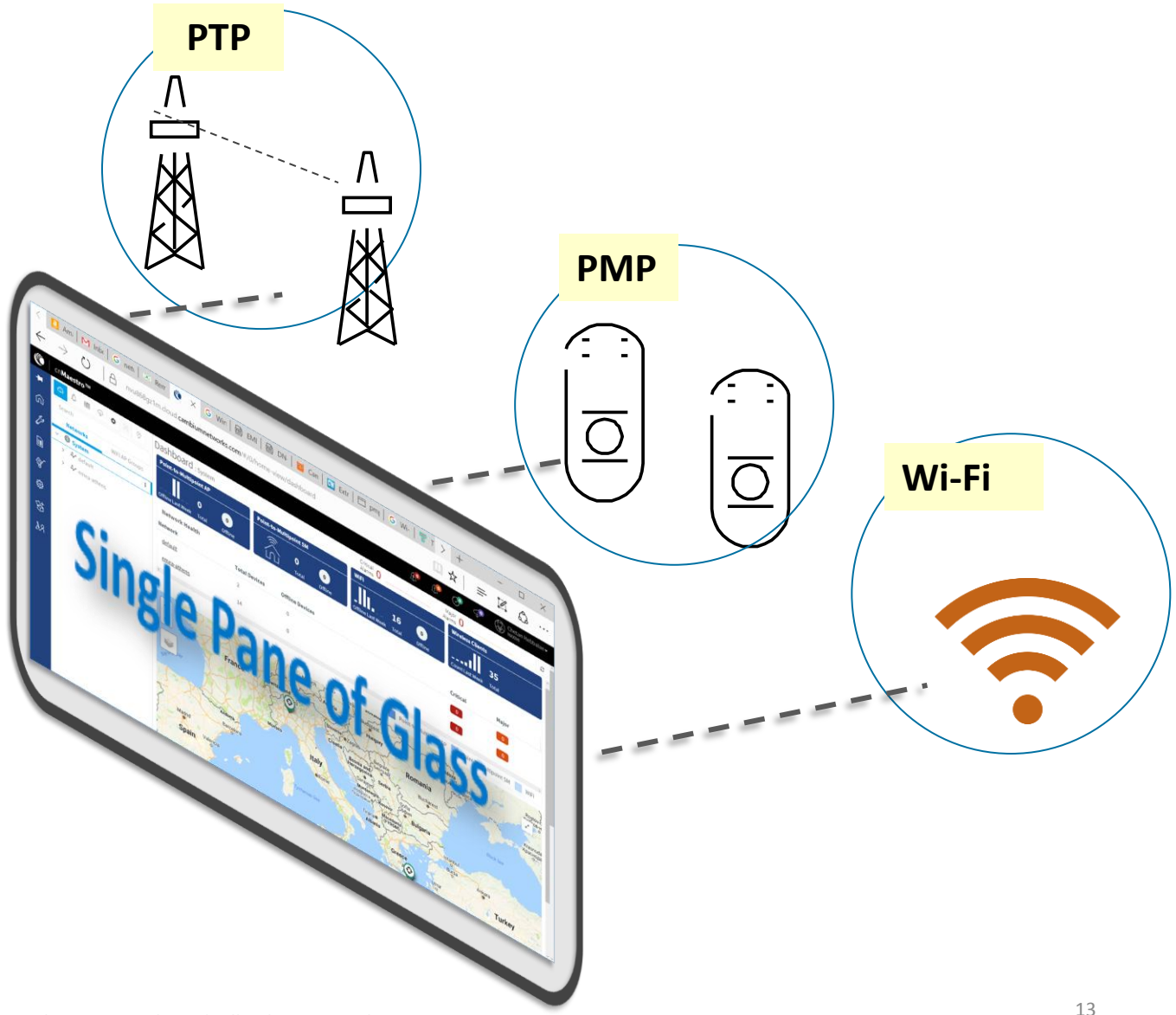
cnMaestro: Window to your Wireless Fabric Network

- ✓ **Secure End to end Solution screen**
  PTP, PMP, Wi-Fi, IIOT
- ✓ **Normalizes operations**
  Upgrade, Statistics, Onboarding
- ✓ **Platform migration management**
  APIs to manage the network
- ✓ **Multi-tenant, High Availability,**
  available anytime, anywhere

Admin





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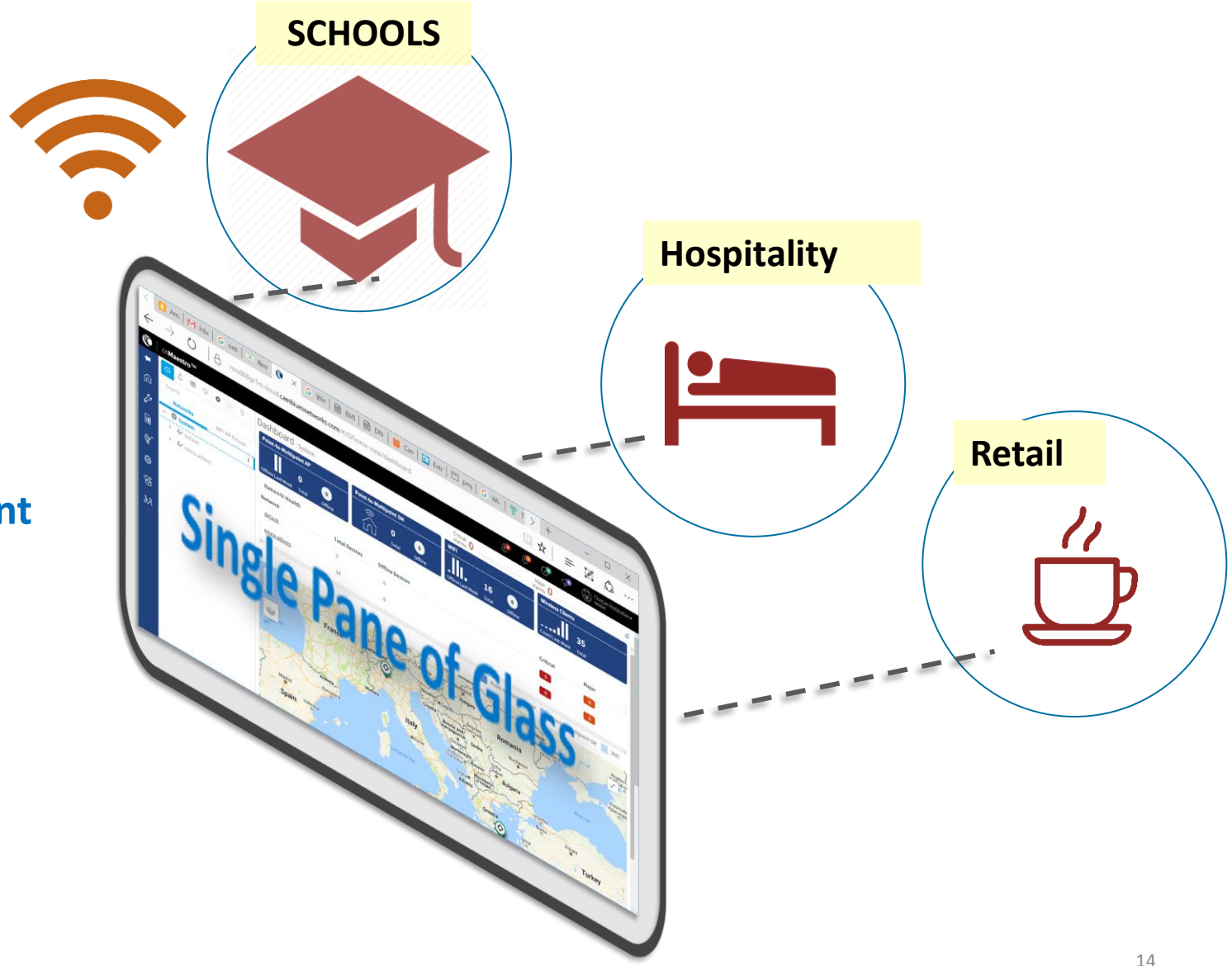
cnMaestro: Enterprise Managed Services Management

- ✓ **Secure, Monetizable Wi-Fi** across Verticals
- ✓ **Normalizes operations** Upgrade, Statistics, Onboarding
- ✓ **Platform migration management** APIs to manage the network
- ✓ **Multi-tenant, High Availability,** available anytime, anywhere

Admin



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Multi-city Large Wi-Fi network connectivity

Tikona, India – Over **7,000+** APs to date

Deployed in 25 Cities

Connecting the 4 Billion Unconnected

LMES ConnectWe

SHAILDHAR telecom services

AirJaldi

net vision broadband | cable tv

EVERYLAYER

TIZETI

- Working with world wide partners
- India, S.E Asia, Africa
- End to end Wireless in action

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Global Entrepreneur Summit Hyderabad- Connected Leaders

- **4500+ Leading Entrepreneurs in one Hall**
- **100** Access Points in action
- Deployed in less then 48 hours.

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Leaders Rely on Cambium Networks

Service Provider	Enterprise	IIoT	Federal and Defense	Local Government
Reliance Communications	Penn State	Townsville North Queensland	United Nations	GSWAN
airtel	Reliance Petroleum Limited	EXXON	Policia Rodoviaria Federal	Shire of Roebourne
tikona Digital Networks	TATA Communications	bhpbilliton	กองทัพบก Royal Thai Army	रेलटेल RAILTEL
vodafone	ESSAR Steel	bp	United States Marine Corps	Joburg
BSNL	BHEL	AGUAKAN	United States Air Force	Harris County Texas
Dialog	Jindal Steel & Power	ENERJISA	United States Navy	City of Seattle
smartfren	NTPC	Anadarko Petroleum Corporation	Department of Justice	Salt Lake City
telenor	Bridger Valley Electric Association	QUEENSLAND GAS	United States Strategic Command	City of Chicago
Digicel	Hackensack University Medical Center	PHILLIPS 66	Royal Moroccan Army	City of Ekurhuleni
Telefónica	RTA	CSX Transportation	Royal Navy	
CBN	JRN Journal Broadcast Group	DUKE ENERGY	Royal Jordanian Army	
www.nusa.net.id nusanet Internet Solution Provider	Ocean Edge Resort & Golf Club	Unión Grupo	Indian Army	
Claro	Snavely Forest Products "Building Business for Our Partners"	eog		
NuSkope Broadband Internet				

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Happy Customers – Many Verticals

UniCredit

PLYMOUTH JOINT SCHOOL DISTRICT

AirJaldi

bp

LMES The making of a new India

KOA HOLIDAY

Everest Link extreme internet

Holiday Inn

mv net internet without limits

Shiva group of hotels

Telefónica

kbr WiFi

eolo

OCEAN EDGE RESORT & GOLF CLUB CAPE COD, MASSACHUSETTS

TEDx Zagreb x = independently organized TED event

orange™

Hrvatski Telekom

Digicel

Frontier COMMUNICATIONS

HRVATSKI KARATE SAVEZ CROATIAN KARATE UNION

REBOOT infoGAMER

Apollo Cradle FOR WOMEN & CHILDREN

WirUlink wireless • fibre • voice • data

maslinica HOTELS & RESORTS

CH THE WORLD OF JEWELS

COURTS

ENERJiSA

SANVI HOMES

LAHARI RESORTS

SUGUNA FOODS Breeding Trust, Growing Together

Cambium Networks™

A clean sweep!

2015 WISPAPALOOZA
October 10-17, 2015
The Rio Hotel, Las Vegas

Giving back to the community

Cambium efforts to bring goodness to the community

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Helping refugees in Greece (Lesbos Island)

Upon landing in Greece – Water first, Wi-Fi next!

Disaster Tech Lab + Cambium Networks bring network connectivity

- Wireless backhauled Wi-Fi Hotspots ePMP + cnPilot
- Training refugee youth to maintain network

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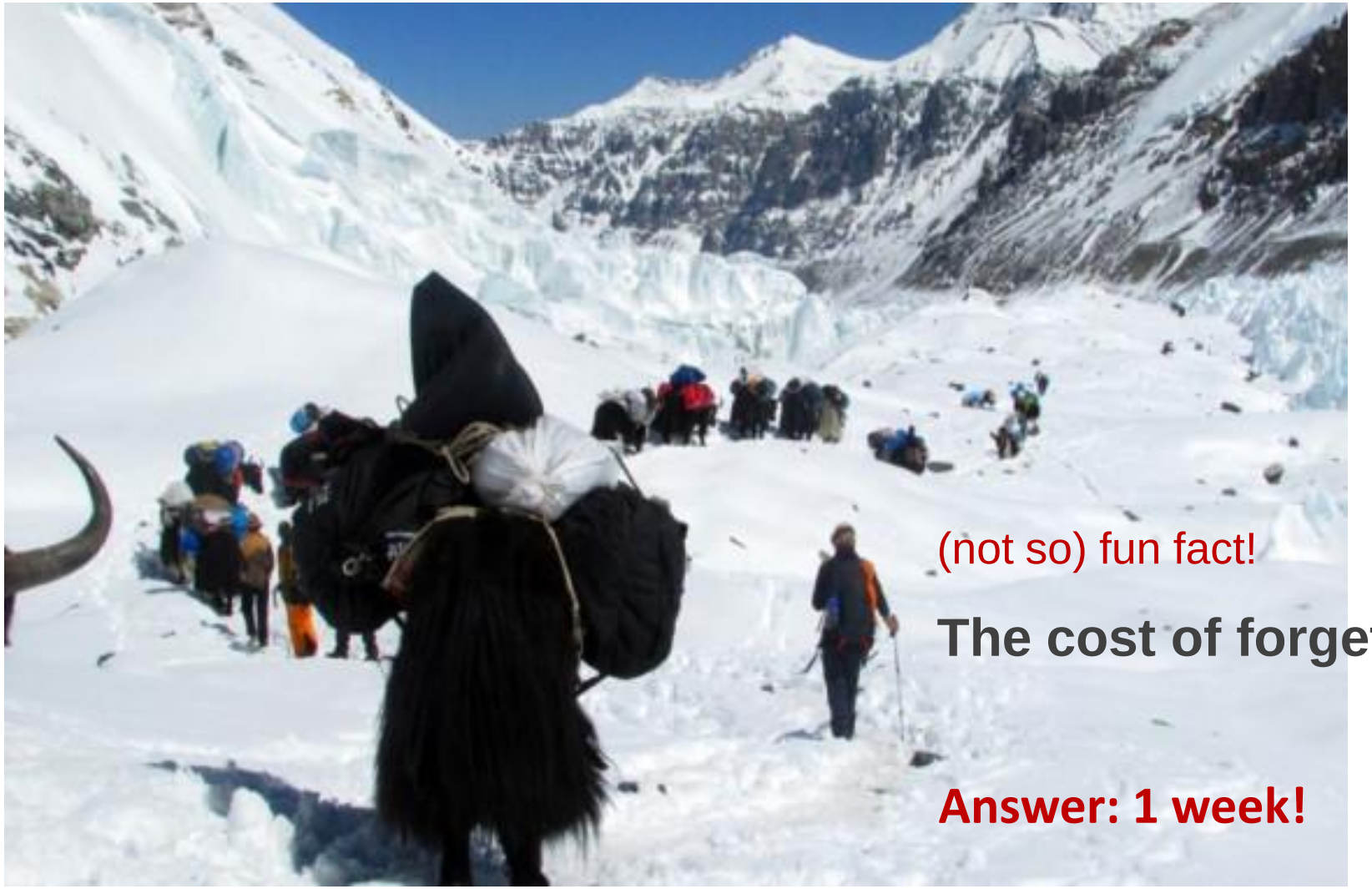
Stories with a heart!

The World's Highest Hotspot

- 1,600 Climbers/1,500 Sherpa's
- 98 Km PTP link + 802.11ac Wi-Fi

As featured in Venture Beat



(not so) fun fact!

The cost of forgetting an Ethernet cable?

Answer: 1 week!

https://venturebeat.com/2017/06/03/you-can-now-get-a-wi-fi-connection-on-mount-everest/

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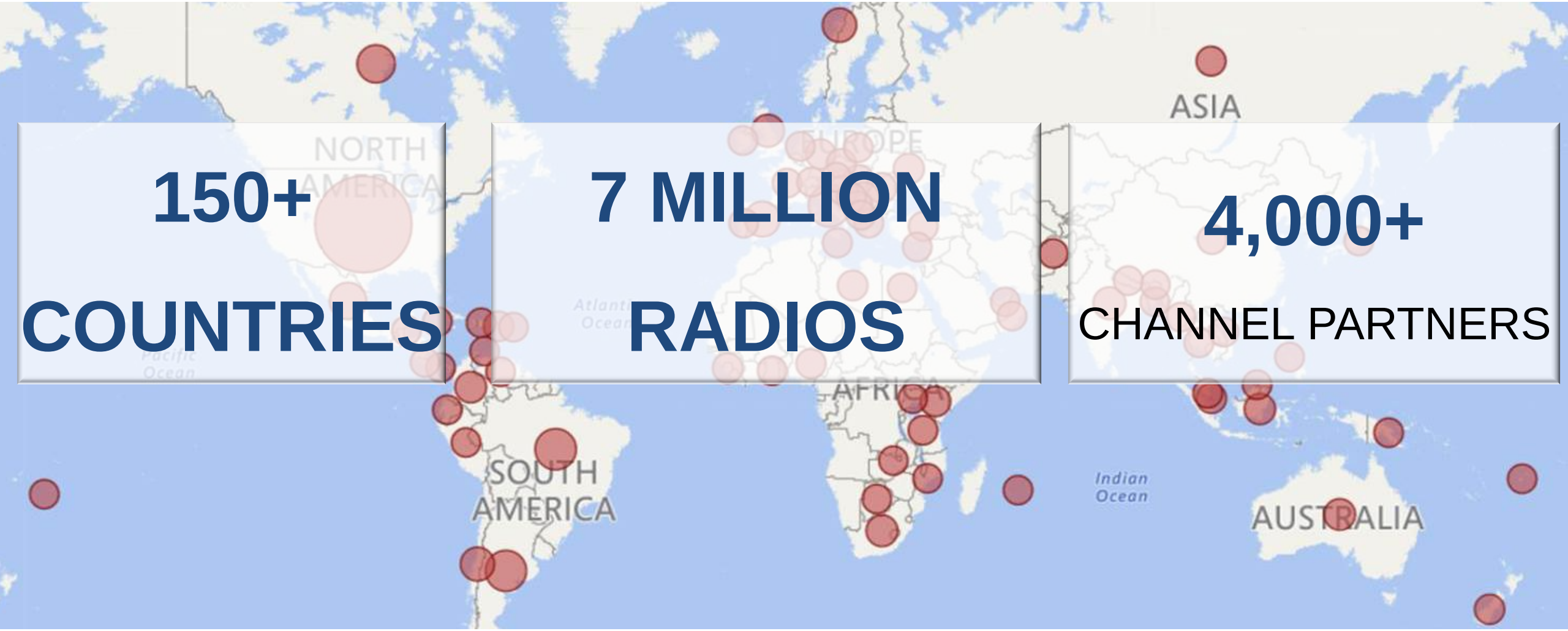

150+

COUNTRIES

7 MILLION

RADIOS

4,000+

CHANNEL PARTNERS

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Thank You
THE TIME IS NOW!
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