Cost savings and revenue benefits from Next Generation Hotspot (NGH) Wi-Fi

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WBA Members have a Common Vision

Better Customer Experience
New Growth Opportunities

"Next Generation" Wi-Fi Platform

Interoperable

Seamless

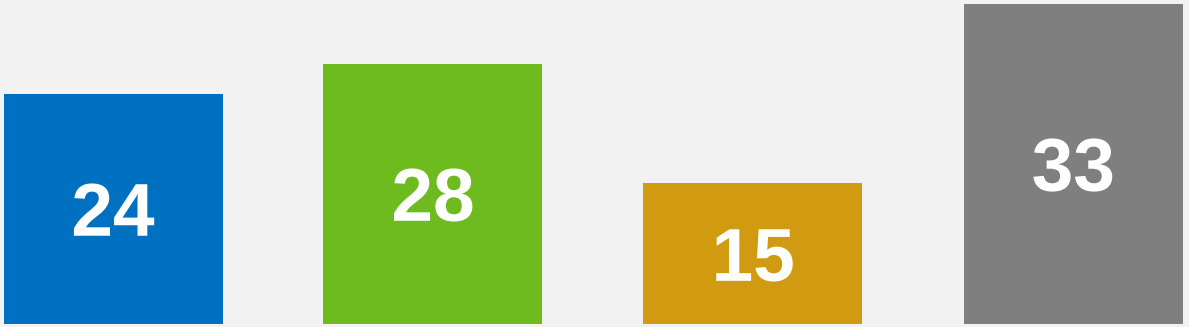
Secure

Our Diverse Organization Has The Expertise To Deliver This Vision And Remove Friction

Diverse Membership Across The Wi-Fi Ecosystem

100

Members



Mobile operators

Integrated & fixed broadband operators

Wi-Fi operators/ aggregators

Vendors & other industry players

Central role in accelerating the ecosystem

Wireless Broadband Alliance
Driving next generation Wi-Fi experience

Joint Taskforce

GSMA

GSM-like robust Wi-Fi-to-Wi-Fi global roaming & standards based 3GPP-Wi-Fi Integration & interworking

CableLabs

Alignment of Interoperability and roaming framework specific for Cable operators

Wireless Broadband Alliance
Driving next generation Wi-Fi experience

End-to-End Seamless Interoperability Across Operators

Carrier Grade Network Management

Auto Network Discovery & Selection

Global Roaming & Interoperability

Secure & Seamless Authentication

Cooperation Framework

Wi-Fi ALLIANCE

Wi-Fi Alliance Passpoint™ certification program for equipment interoperability based on Hotspot 2.0 specifications

SMALL CELL FORUM

Promotion of integrated GSM-Wi-Fi small cells equipment with seamless interoperability

ngmn the engine of broadband wireless innovation

oma Open Mobile Alliance

3GPP A GLOBAL INITIATIVE

broadband forum

WBA key strategic objectives

		2013 Objectives
	Next Generation Hotspot	Commercial Reality
	Wi-Fi Roaming	Globalize
	Carrier Wi-Fi	Set Clear Roadmap

NGH Wi-Fi:
a new Wi-Fi experience in public locations

Source:

- **Wi-Fi is a mature, yet evolving technology:**
  - Better support for mobile devices
  - Full-fledged RAN technology
  - Efficient spectrum utilization
  - Better support for public access
- **Enthusiastic support from users**
- **Wider commitment from operators**

Next Generation Hotspot Wi-Fi: Features
Seamless SIM-based (cellular devices) and EAP-TTLS (devices without a SIM card) authentication.
Automatic network discovery and selection, with the ability to steer subscribers toward preferential Wi-Fi use.
Secure access to trusted networks.
Policy support for defining connection preferences – e.g., to decide which Wi-Fi network a device should associate with, when multiple ones are available.
NGH Wi-Fi: Benefits to operators
Increased traffic on Wi-Fi networks.
More visibility into subscriber experience.
Policy management and enforcement extended to Wi-Fi and, if desired, integrated with cellular policy control, enabling operators to leverage Wi-Fi access more extensively to relieve traffic load in cellular networks.
Wi-Fi as a radio-access technology that can be tightly integrated with the cellular RAN and core network, and jointly deployed in cellular small-cell networks.
Support for location-based services, such as navigation, mobile advertising, geofencing and B2B applications, especially at indoor locations where the GPS signal is not available or is less accurate than outdoors.

Source:

Yet, questions remain

What is the business case?

How do you monetize Wi-Fi?

What are the service revenues from Wi-Fi?

Can you recoup your investment in Wi-Fi?

A few definitions

Source:

NGH Wi-Fi

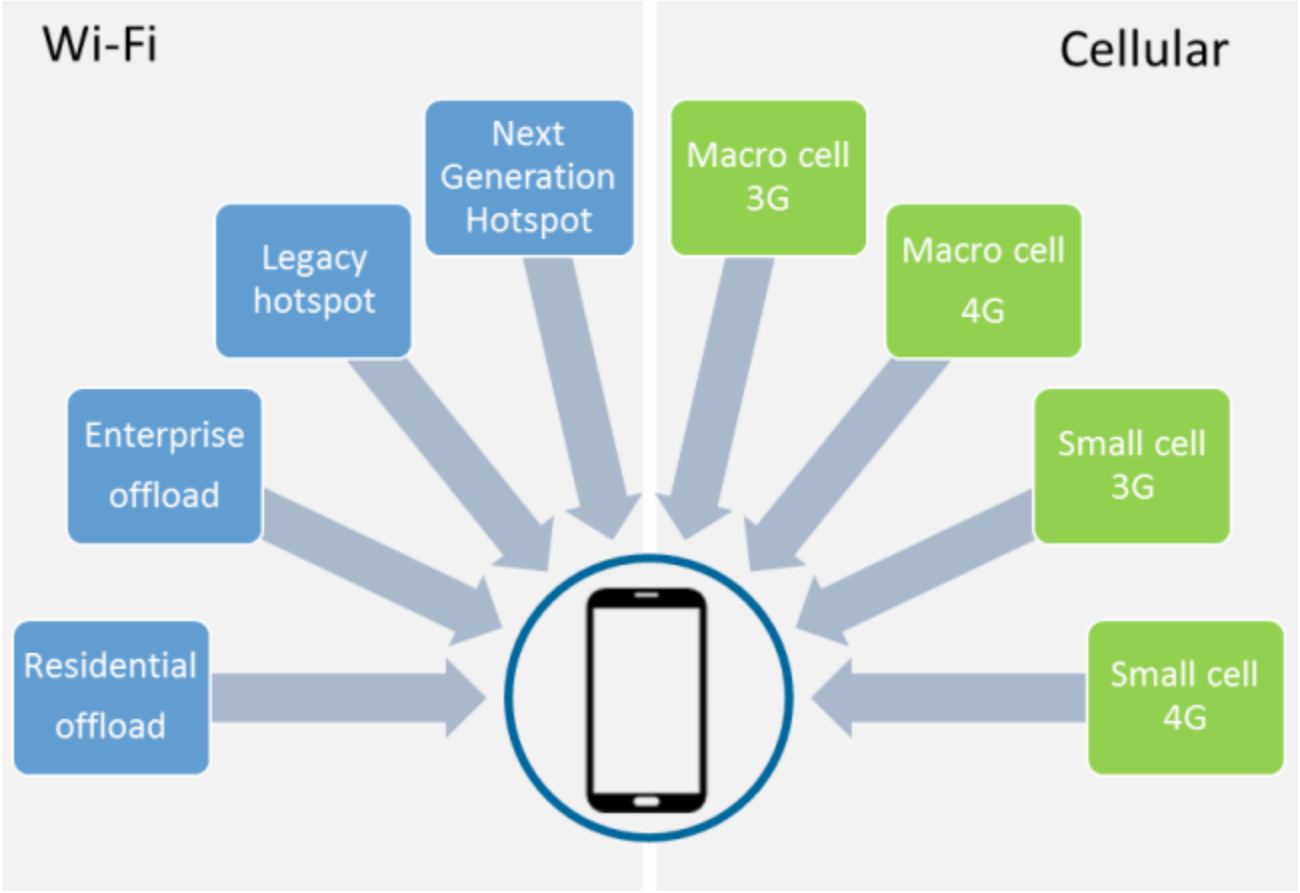
Wi-Fi offload

Legacy Wi-Fi

3G and 4G

Small cells (and Wi-Fi)

ARPU (and data ARPU)



A TCO model for NGH Wi-Fi in public networks

Source:

Wi-Fi can add capacity to congested mobile networks, but is it cost effective?

If Wi-Fi access is cheaper than cellular access in the macro network, is it also cheaper when deployed alongside small cells?

And does NGH Wi-Fi provide a cost benefit over legacy hotspot Wi-Fi?

Model assumptions

Mobile network components:

- 2G macro cell (2GM)
- 3G macro cell (3GM)
- 4G macro cell (4GM)
- 3G small cell (3GS)
- 4G small cell (4GS)
- NGH Wi-Fi

Base case:

ARPU: $22 per subscriber, per month

Subscribers: 10 million

Traffic per subscriber, per month: from 0.5 GB (3G only) to 1.25 GB (3G, 4G, Wi-Fi)

Wi-Fi traffic: ranges from 0% (3G only) to 20% (3G, 4G, Wi-Fi)

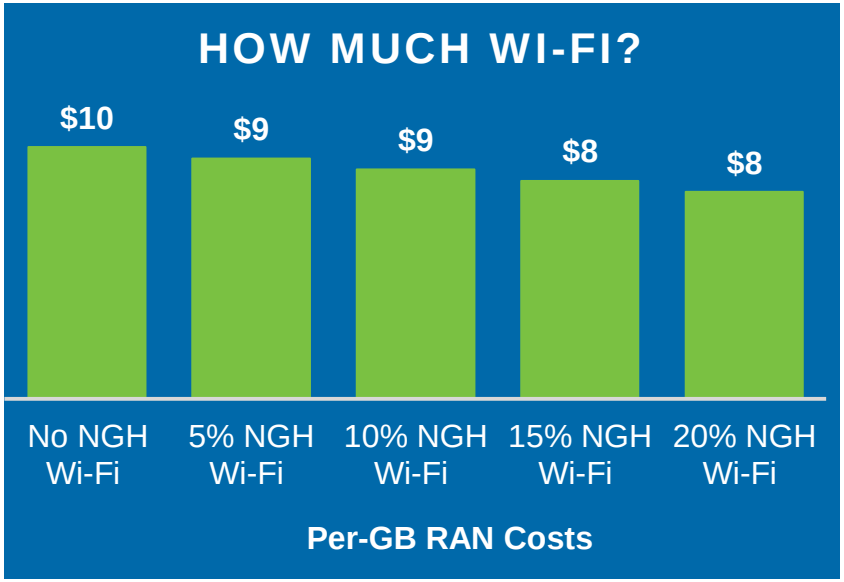
Sources: Senza Fili, Cisco, GSMA, Ericsson and mobile operators.

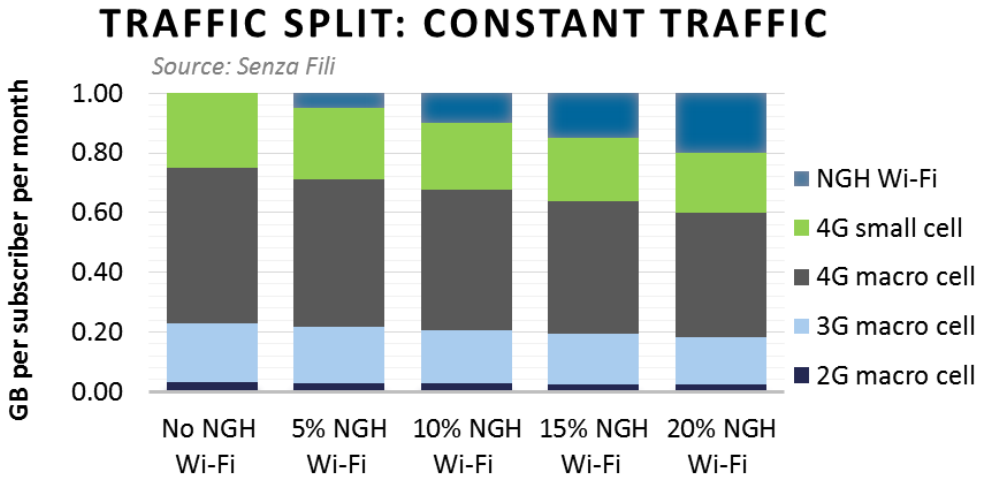
More or less Wi-Fi?

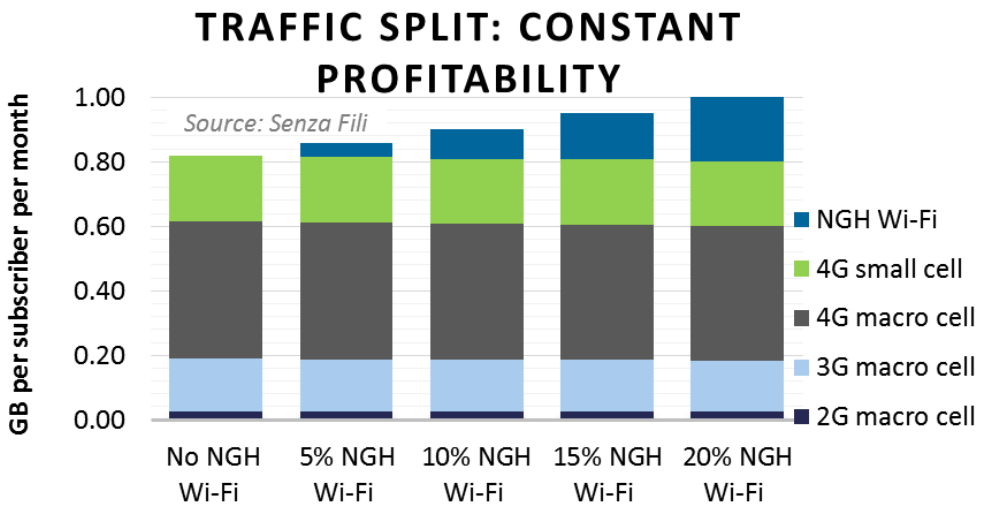
Source:

If NGH Wi-Fi carries 20% of mobile traffic

- 18% per-bit cost savings
- 22% more traffic for subscribers for the same RAN costs



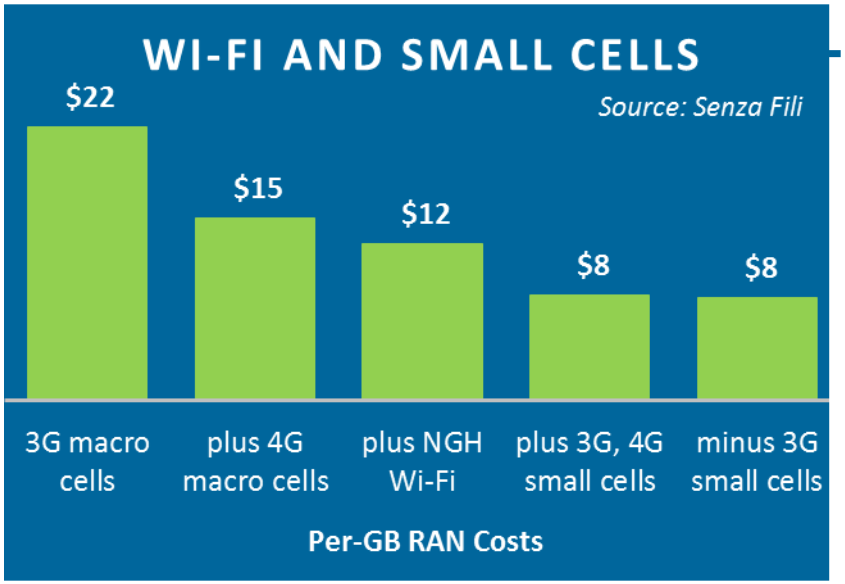


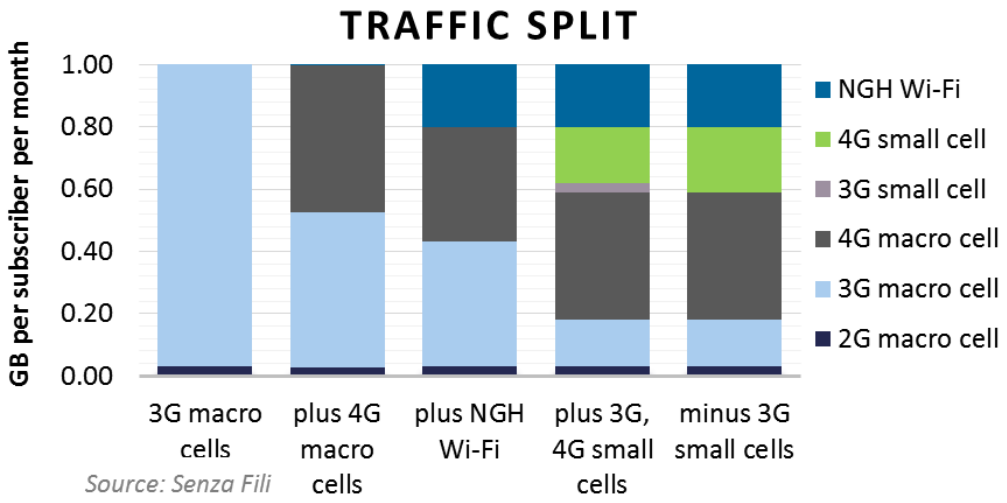


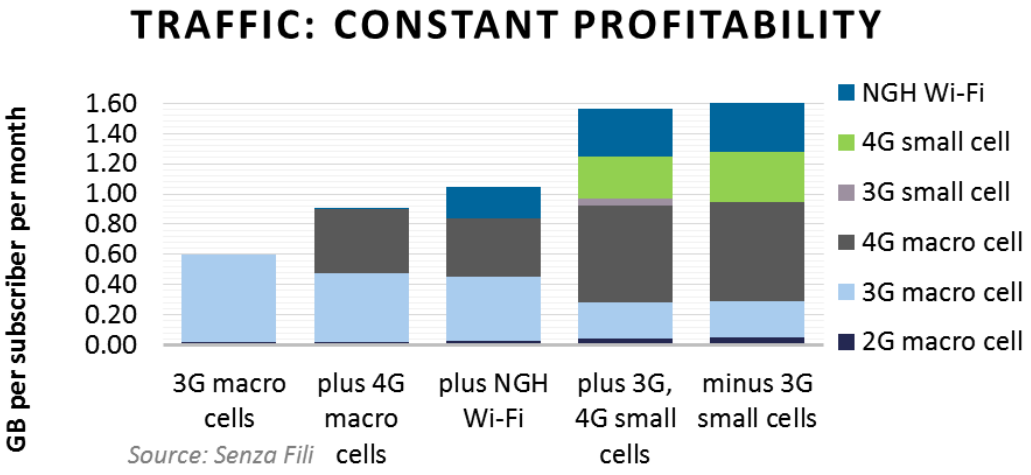
Adding small cells to NGH Wi-Fi

Source:

- 38% per-bit cost savings
- 167% more traffic for subscribers for the same RAN costs



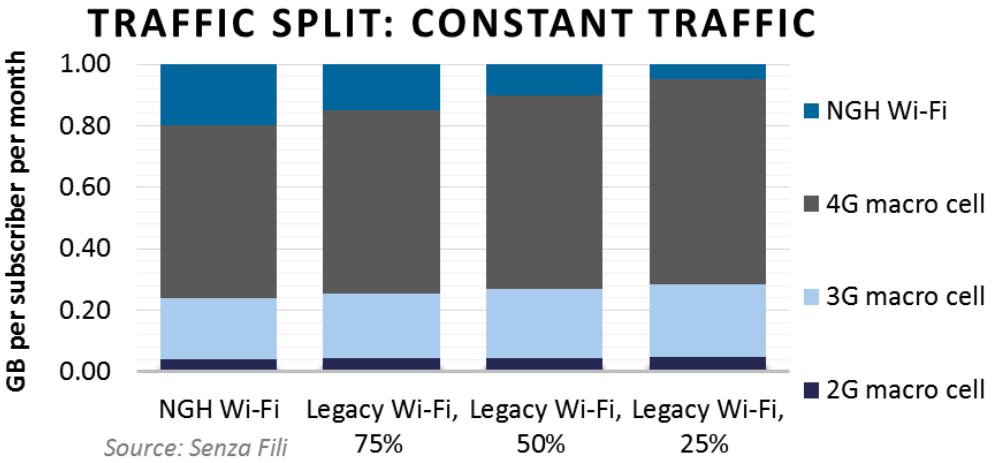


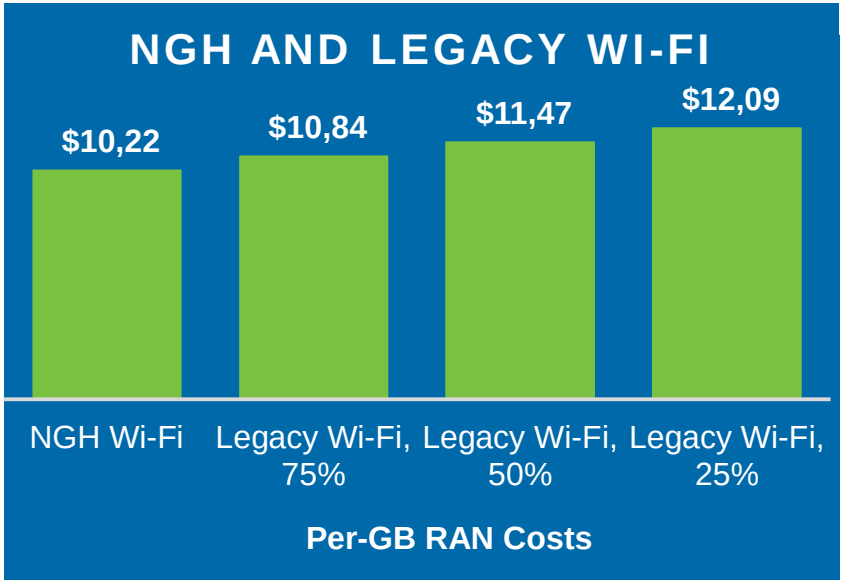


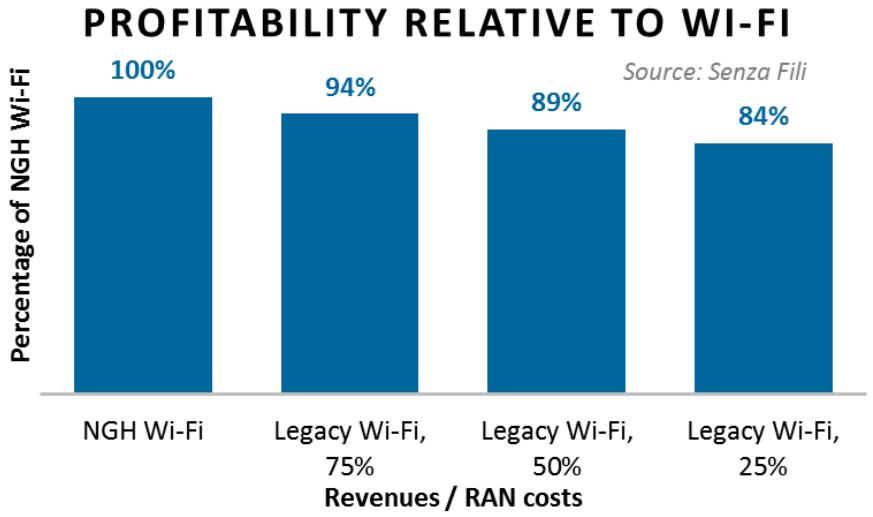
NGH and legacy Wi-Fi

Source:

- 18% higher per-bit RAN costs with 75% of traffic reduction with legacy Wi-Fi
- 16% reduction in profitability





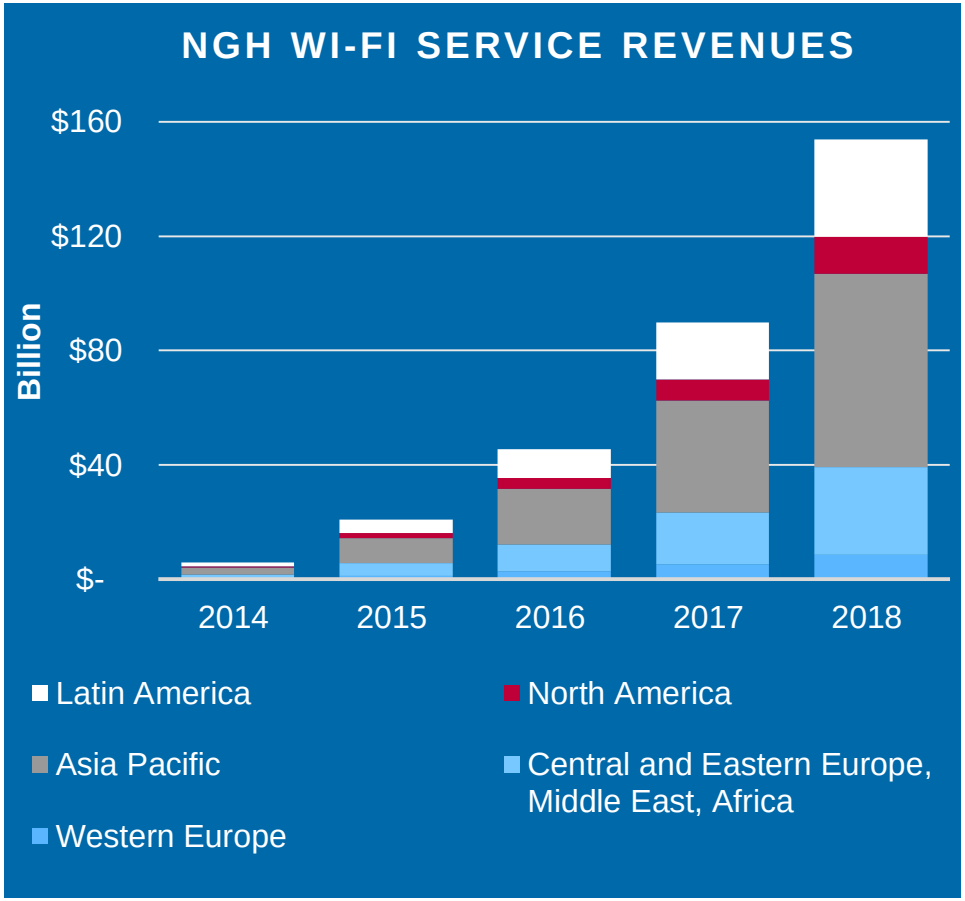


NGH Wi-Fi service revenues

Source:

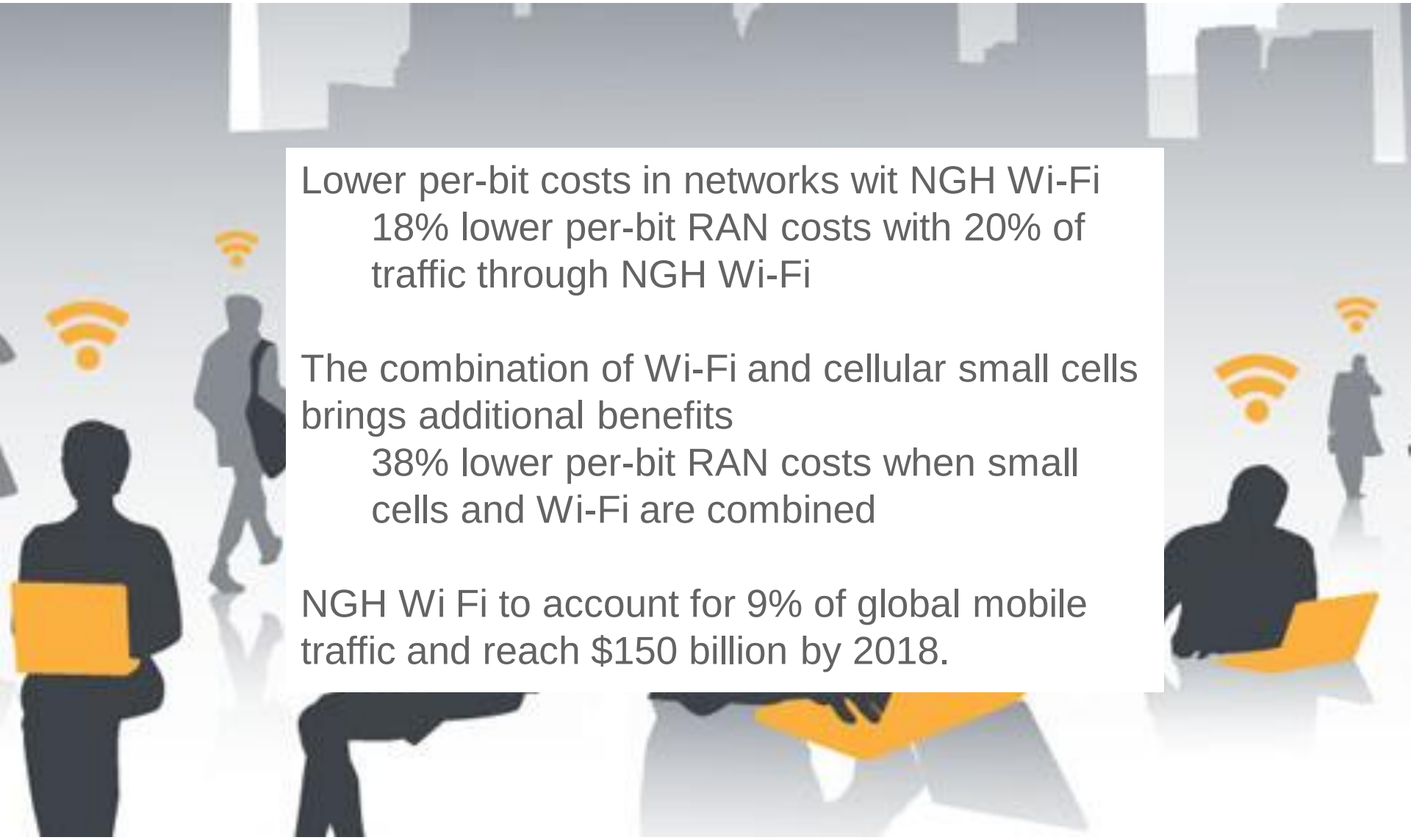
The revenue opportunity by 2018:

- 9% of mobile traffic over Wi-Fi networks run by operators
- $150 billion in service revenues from NGH Wi-Fi



Summary of results

Source:



Lower per-bit costs in networks wit NGH Wi-Fi

- 18% lower per-bit RAN costs with 20% of traffic through NGH Wi-Fi

The combination of Wi-Fi and cellular small cells brings additional benefits

- 38% lower per-bit RAN costs when small cells and Wi-Fi are combined

NGH Wi Fi to account for 9% of global mobile traffic and reach $150 billion by 2018.

For more information see the new white paper from Senza Fili sponsored by the WBA, “Cost savings and revenue benefits from Next Generation Hotspot (NGH) Wi-Fi”

Download the white paper from www.wballiance.com

Senza Fili Consulting
www.senzafiliconsulting.com

Thank you

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