



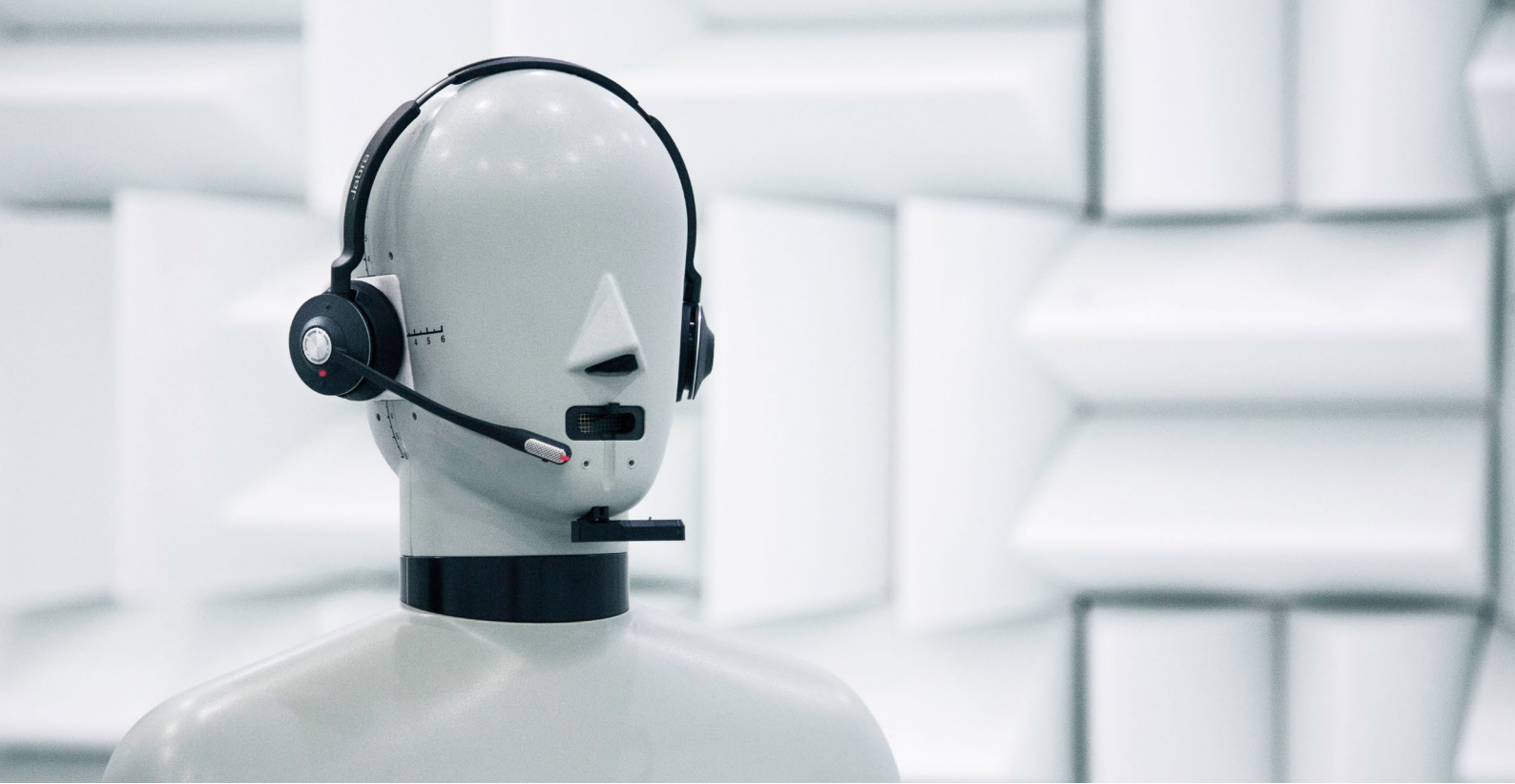
Jabra Engage Series wireless headsets

# Improving DECT density in the office

Exclusive, industry-leading technology that gives increased flexibility for your wireless deployments

**GN** Making Life Sound Better  
FOR 150 YEARS





## The challenge: wireless headsets in the open office

Customer satisfaction is increasingly challenged as customer calls get longer and more complex. This, combined with the continued reduction of personal space, makes the call centric open office an even more intense place.

The number of headsets that can be used in a given area depends on the area size, the furnishing of the office such as furniture, carpets, curtains, walls dividers, etc. In addition, the

average distance of headset-to-base, the presence of metal objects or large glass surfaces, and headset settings, can also negatively impact headset use.

If a large number of wireless headsets are used within a limited area, such as an open office, users may experience less-than-optimal audio quality due to density issues.

## The solution: class-beating DECT wireless performance for better customer connections

Jabra Engage is engineered to be an entirely new class of DECT wireless professional headset. Engage offers industry-leading wireless performance, with a range up to 150 meters/490 feet.

With Engage Wireless you can connect up to 3x as many users, without impacting the call experience. Density capacity has been boosted to give you a wireless connection that won't let you, or your customers, down.

Forty Jabra engineers spent over 115,000 hours developing Engage Wireless and registered four new patents in the process.

Jabra Engage now enables users and IT Managers to focus on their customer calls and to deliver great customer satisfaction rather than on technical issues, with an innovative professional DECT solution.

Up to **3x** the number of users.

**0%** negative impact on calls.

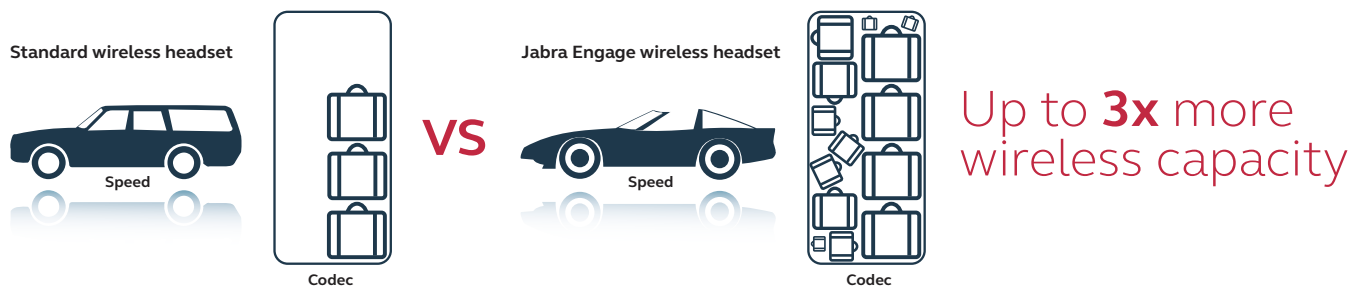
# How: Introducing Jabra Engage Wireless

Jabra Engage Wireless features advanced codecs that compress data more efficiently. Audio signals are transported in the exact size needed, instead of a standard size, and at a faster bit rate.

This means that Jabra Engage Wireless can transport more radio signals, and at a faster speed, than comparable products using the same number of radio channels.

## Wireless density comparison

Imagine headsets are cars. Jabra Engage can transport more luggage with the same trunk size and can do it faster than a standard wireless headset with even better security.

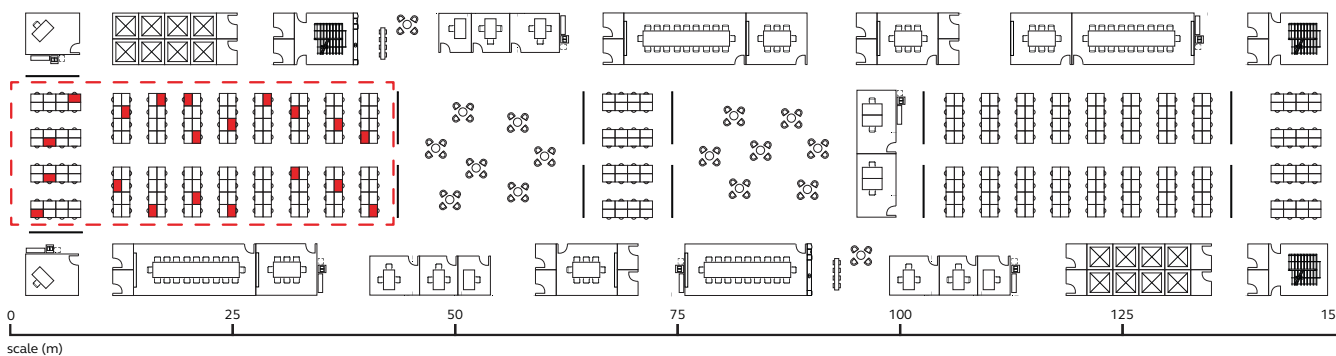


## Jabra Engage Wireless delivers up to 3x the wireless density in wideband

Headset model/series	Jabra Engage Series	Jabra Pro 9400 Series	Jabra Engage Series	Jabra Pro 9400 Series
	wideband	wideband	narrowband	narrowband
Frequency	wideband	wideband	narrowband	narrowband
<b>Number of active users</b>	▼	▼	▼	▼
EU	145	40	190	80
US	70	20	95	40
Japan	50	9	70	18

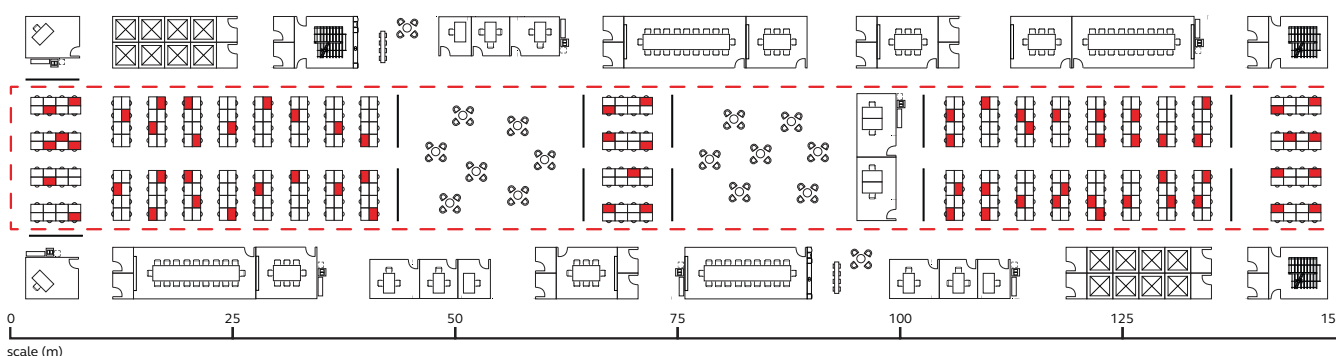
## Jabra Pro 9400 or other wireless headset office set up with 20 active users

Wideband, North America



## Jabra Engage office set up with 70 active wireless users

Wideband, North America



The above charts are for illustration only, and show theoretical full capacity wideband wireless use as deployed in North America. In actual use, floors/ceilings, materials and other users can influence signal density.

Every deployment is unique, so please contact your Jabra representative who will be able to guide you through the specifics of your business' deployment.

# How to plan

The purpose of the planning process is to define a layout that ensures superior call quality for every user. The result is a plan that defines the recommended number of headsets in an office and the optimal product configuration.

These recommendations are based on the users' work modes and requirements, size of the office, total number of users, and the technology deployed.

Short and medium wireless range settings can increase the number of units that can be deployed in an office. However,

the wireless range of the headset is also reduced, which limits how far away the user can walk while on a call.

In high-density environments, another viable approach to increase the number of users in an office is to use different technologies, such as traditional wired headsets, wireless DECT, and Bluetooth® headsets, in the same area.

In this case, please be aware that there are also range differences between various products and technologies.

## Considerations

<b>Building layout and isolated areas</b>	Identify the areas where headsets are to be deployed. An area is a separate, isolated office space and needs to be considered one at a time. Determine the area size in square meters or square feet.
<b>Number of headsets per area</b>	Check whether the required number of headsets exceeds the limits per area stated on page 6 and 7. If the limits are exceeded, please contact Jabra Technical Support for more information.
<b>Office furnishing</b>	Office furnishing - the so-called "clutter factor" - has perhaps the biggest impact on the density. A heavily furnished office can have a positive impact from a density perspective, while a sparsely furnished office, can have the opposite effect. The differences in density due to the office furnishing can be as large as a factor of four.
<b>Average distance between headset and base, and user mobility</b>	These are important factors that affect planning. The average distance between headset and base is typically less than 2 m / 7 ft, which is the case when users are handling a call from their desk. However, it's also important to determine how mobile the users are or need to be. It makes however little difference if only few users are highly mobile in the office.
<b>Special DECT considerations</b>	<p><b>Wideband Audio</b> The use of wideband audio reduces the maximum number of headsets in a given area.</p> <p><b>Range Configuration</b> Jabra DECT products have a configuration option called Range Setting that reduces the range and radio signal strength. The 'Short' (10 m / 30 ft) and 'Medium' (30 m / 100 ft) power settings* will improve the density performance. Note that when this option is used, all products in the same area must set in the same way.</p> <p><b>Headset Utilization</b> The amount of time in which the headsets will be utilized – e.g. if users are on a call 100% of the time or 50% of the time. In DECT, we recommend planning with 100% utilization because a lack of an available channel highly impacts communication between a headset and base.</p> <p><b>DECT environment - Dense</b> With Jabra Engage Wireless you can change the setting, so it fits the size of the deployment. Two different wireless density modes are available; Normal and Dense. In an office smaller than 700 m<sup>2</sup> / 7,530 f<sup>2</sup>, the Jabra Engage Wireless will perform at its best in Normal mode. In offices larger than 1,000 m<sup>2</sup> / 10,700 f<sup>2</sup>, the Dense mode will allow more users to benefit from a great call experience. In medium sizes office 700 m<sup>2</sup>-1,000 m<sup>2</sup> / 7,530 f<sup>2</sup>-10,700 f<sup>2</sup>, Jabra Engage Wireless has similar performance in Normal and Dense mode. To ensure that Jabra Engage Wireless always performs at its best, we recommend that you reach out to Jabra Technical Support when a deployment exceeds 700 m<sup>2</sup> / 7,530 f<sup>2</sup>**.</p>
<b>Bluetooth considerations for mixed deployments of DECT and Bluetooth</b>	<p><b>WiFi Coexistence</b> Bluetooth must be used with care if WiFi (specifically 2.4 GHz IEEE 802.11b, g, or n networks) is being used. Using WiFi reduces the number of available channels. You are advised to use WiFi in 5 GHz to avoid interference with Bluetooth.</p> <p><b>Headset Utilization</b> The amount of time in which headsets will be utilized - e.g. if users are on the call all the time vs. 50% of the time - makes a significant difference when using Bluetooth®. If the actual utilization exceeds the planned average utilization, a Bluetooth® headset will still be able to communicate with a base, although with some loss of audio quality.</p> <p><b>Bluetooth®</b> range settings affect site planning to a limited extend because the Bluetooth technology automatically adjusts the radio signal relative to the distance between the headset and the base.</p>

\*Jabra Engage settings only

\*\*Please note that the offices sizes should be perceived as rules of thumb. The actual size depends on external factors such as building layout and office furnishing.

# Why DECT makes sense

All wireless technologies are affected by density capacity limitations. This is especially true if the number of headsets exceeds the number of available radio channels.

DECT transports data at an exclusive frequency around 2GHz, which means it works uninterrupted by other wireless technologies like Bluetooth and WIFI. Different regions work on slightly different but still exclusive DECT frequency ranges than the rest of the world.

Unlike DECT, Bluetooth works on an open frequency band that is for instance also used for WIFI. Using Bluetooth devices and WIFI in proximity, can negatively affect the performance of the technologies and can for instance reduce the wireless range of the Bluetooth devices (e.g. mice or keyboards) or weaken the WIFI connection.

Apart from the frequency differences, DECT and Bluetooth also differ on capacity and range.

DECT and Bluetooth technologies serve different purposes, so in order to find the optimal solution for a specific office, it's crucial to investigate the user's pains and work modes, the size of the deployment, the office layout etc.

## DECT delivers:

- **better density**
- **better range**
- **better battery life with Jabra Engage**
- **better sound quality, with a reserved frequency band**
- **better security with Jabra Engage**



# DECT deployment: simple rules of thumb\*

Because of the many factors involved in the planning, we recommend that you contact Jabra Technical Support if the number of headsets exceeds the simple density limits indicated below.

Jabra engineers can assess and provide recommendations based on product-specific planning data. Due to the many factors involved, the figures below should be treated as a moderately conservative guidance.

There should be no deployment issues if the number of headsets in an area is below the following limits:

If the number of headsets exceeds these limits, please contact Jabra Technical Support.

\* The following rules of thumb apply when Jabra Engage wireless is set to Wideband, Short/Medium Range, and Optimized for Music is turned off. Moreover, other external factors such as furnishing or layout, can play an important role on how the headsets perform with different settings.

190 headsets for EU DECT (narrowband audio), or  
145 headsets for EU DECT (wideband audio)

95 headsets for US DECT (narrowband audio), or  
70 headsets for US DECT (wideband audio)

70 headsets for Japan DECT (narrowband audio), or  
50 headsets for Japan DECT (wideband audio)





# More about Jabra Engage Series wireless headsets

## The world's most powerful professional headset\*

- Provides superior wireless connectivity to a range of up to 150 meters/490 feet, enabling up to **3x more users** in the same office space – with no loss in connection quality.
- Advanced noise cancelling microphone and enhanced speakers deliver crystal-clear calls **even in noisy offices**. Meets Skype for Business Open Office requirements.\*\*
- **All day battery life** and a **busylight** that acts as a do-not-disturb sign for colleagues.

## Why Jabra

Different working environments, office layouts and interiors present an almost infinite variety of challenges when planning the effective deployment of multiple wireless headsets in a limited space. As a world-leading supplier of wireless headset solutions, Jabra has many years of experience helping customers deploy effective wireless solutions on their premises.

Find out more about your options in your particular location and workplace environment by contacting Jabra Technical Support, where experts are available to discuss your particular needs and how best to address them.

**[Jabra.com/support](https://www.jabra.com/support) or [Jabra.com/contact](https://www.jabra.com/contact)**

\* Relates to Jabra Engage 75/65 Stereo and Mono variants. February 19, 2018. See facts on [Jabra.com/commercial-claims](https://www.jabra.com/commercial-claims) \*\* Variant dependent

Jabra Engage DECT density Whitepaper – 27/06/2019  
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