

## Introduction

This document is one of a series to explain technological developments in Wi-Fi 6 and 7 in 'lay terms' so that everyone can get a better understanding of how they work and the benefits they can deliver.

This document focuses on **Multi User Multiple Input Multiple Output (MU-MIMO)**.

## MU-MIMO

MU-MIMO allows an Access Point to simultaneously communicate with multiple user devices.

MU-MIMO achieves this by using multiple radios and antennas as found in Wi-Fi 6 and 7 Access Points.

MU working is achieved by simultaneously sending different spatial streams of data from the antennas to the user devices.

For example, an Access Point could simultaneously send 4 x spatial streams to 1 x user device or 1 x spatial stream to 4 x different user devices.

The decision on how to serve the connected user devices with the spatial streams is down to the Access Point.

The use of MU-MIMO is also dependent on the user device specification.

Downlink (DL) MU-MIMO was originally introduced in the later years of Wi-Fi 5 (802.ac) and was carried over into Wi-Fi 6 (802.ax) and 7 (802.11be).

Uplink (UL) MU-MIMO is available in Wi-Fi 6 and 7 but isn't a mandatory feature for Access Point and user device manufacturers.

## Benefits

- Improved efficiency
- Lower latency
- Increased capacity

## Who is Saytelco?

Saytelco is an independent consultancy that specialises in Wi-Fi. We help our clients to devise Wi-Fi strategies, build business cases, procure products/services and project manage implementations.

We can also survey sites and advise on equipment and security configurations. To arrange a no obligation discussion on how we can help you to address your Wi-Fi challenges, please email Mark Sayers via [msayers@saytelco.com](mailto:msayers@saytelco.com) or call 07970 573428.