Europe's high-frequency long-haul network has been cut by two-thirds as a result of COVID.

By February 2020, COVID-19 had already begun to affect the long-haul network out of Europe, in particular some routes to China. So we need to look back two years to see a 'normal' network over these distances. In February 2019, there were 61 high-frequency long-haul connections from Europe to various destinations worldwide. The map clearly shows the worldwide reach of Europe's long-haul hubs. The large ones - London Heathrow, Frankfurt, Paris CDG and Amsterdam Schiphol - have high-frequency connections both east and west. But there are also smaller, more focused ones: Madrid and Lisbon with their connections to South America, Dublin just showing a connection to New York JFK here, Zurich, Milan and Rome. London and Paris also appear with connections from secondary airports, Gatwick and Orly.

With COVID-19, there are very few long-haul routes that can support even this frequency. Heathrow drops from 25 routes to just 7. Madrid, Lisbon, Dublin, Rome, Zurich have no routes over the threshold at all, although the strength of cargo means that Luxembourg is a new entry on the map. The secondary airports of London and Paris are no longer in the list. Two continents are now missing. Indeed, the frequent connections that remain are to just five countries: USA, UAE, Qatar, China and South Korea.

Long-haul connections are still mostly there, but at a much lower frequency – in fact, the number of long-haul airport pairs with at least one return flight per week declined only by 21%, from 1,147 to 910, between February 2019 and February 2021. Meanwhile the high-frequency routes shown in the map have fallen by more than two-thirds, from 61 to 19 (69%).

Even in normal times, frequency is to some degree a matter of business strategy: a double-daily connection may be enough. This may be why Hamad International airport in Doha, Qatar appears in both maps as often as Frankfurt, and why Istanbul does not appear at all.

**Technical Bits:** All market segments are included, so these flights include scheduled passenger, all-cargo, leisure charter and business aviation, as well as passenger flown as cargo. The lines on the map show the great-circle, not flown route. "One return flight per week" is a short-hand for having on average 2/7=0.29 flights (total of both directions) per day across the month as a whole; since cargo is often one-way, this is only approximate. We covered short-haul in an earlier data snapshot. The map and underlying data are available on the web page for this snapshot.