Q4

Fuel cell vehicles have been designed and manufactured since the 60s, due to the use of alkaline fuel cells by NASA. Nowadays, we see that fuel cell vehicles are not popular, rather internal combustion engine, hybrid and battery electric cars take up the vast majority of vehicle market share. Currently, there are only two publicly available fuel cell vehicles, both of which use solid-polymer fuel cells 1 2. Solid-polymer cells have a high-power density and an operating temperature low enough to not be hazardous. This low operating temperature also allows the cell to start quickly. However, these cells have high activation and mass transport losses, limiting the range of effective current densities.

Due to their small and niche market size, there is little support for such vehicles in today’s world. In the UK, there are only 14 hydrogen filling stations

1 <https://mag.toyota.co.uk/new-mirai-hydrogen-fuel-cell-electric-vehicle/>

2 <https://www.caranddriver.com/hyundai/nexo>