COVID19:Role of wireless communication and Networking

The World Health organization has declared COVID-19 as a pandemic and almost all countries across the globe have been affected by the virus both socially and economically. Many countries in Europe like Italy, Spain, Germany, France and the UK, and in north America like the United states and Canada have declared full or partial lockdown; and advised their people not to leave their homes unless necessary. In this difficult time, Telecommunication networks have been identified as a critical service.

Mobile and fixed broadband networks have played a key role to enable rapid transition of work from physical offices to digital platforms. The sensing capabilities of the current smart phones are being utilized to enable mobile crowd-sensing for extracting, sharing and analysing data during the ongoing pandemic.

New applications ranging from self-reporting of symptoms to coordinating and tracking essential personnel or volunteers or patients are being developed and rapidly deployed. Sensing capabilities are also being exploited for contact tracing and early isolation of infected people or areas. Wide range of social and educational applications are also being launched to deal with mental and physical health related issues under the lockdown

While current communication and sensing technologies have been relatively successful to cope with the demands, several areas for improvement to have already started emerge.

For instance multimedia content providers are being asked to reduce their quality of streaming service to alleviate possible congestion and deployment of local caching capability and cross layer optimization in the network architecture. Device communication could also assist in addressing potential congestions. Such technologies are still infancy and have not attained maturity for rapid development