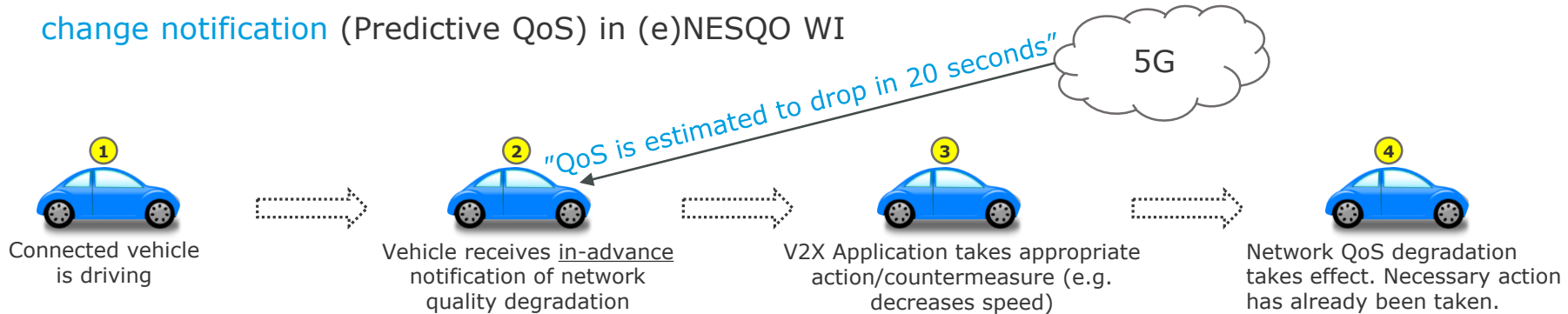
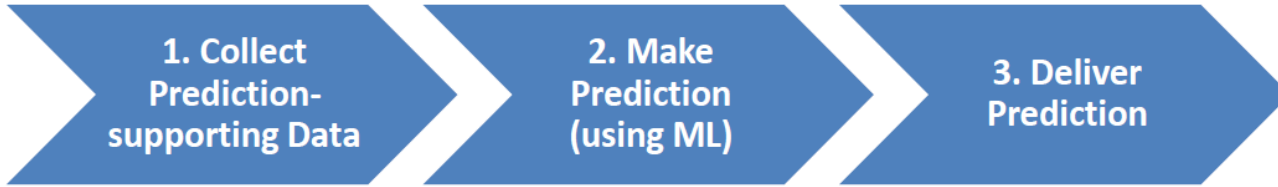


Predictive QoS

**An Innovative Mechanism to Provide
In-advance QoS Notifications from the
Network to the V2X Application**

- Automotive industry is evolving towards autonomous driving
- A key enabler for this evolution is the 5G mobile network
- Today's mobile networks may not be able to always guarantee the required Quality of Service (e.g., latency and data rate).
- Therefore, network quality degradations need to be communicated to the vehicle **in-advance**
- To resolve this issue, 5GAA is investigating mechanisms and solutions for **in-advance QoS change notification** (Predictive QoS) in (e)NESQO WI





Data collected from multiple sources:

- **Vehicle data** (location, planned route, speed)
- **Vehicle sensor data** (hazardous road conditions, situational awareness)
- **Road infrastructure data** (road topology, traffic signs)
- **Network data** (network coverage, load, resources)
- **Weather data** (rainfall, visibility due to fog, wind speed)
- **Large events data** (sports, concerts, festivals)
- **Analytics data** (handover failure rate, statistics)

- Examples of [application reactions/countermeasures](#) in typical use cases:
 - **High Density Platooning:** change inter-vehicle distance, handover to driver
 - **Tele Operated Driving:** change route, park vehicle, handover to nearby driver
 - **Lane Merge:** change speed of merging attempt
 - **Infotainment:** change video quality
 - **Software Update:** stop or resume download

Thank you