Environmental Research, Technology Demonstration and Conference Project

ECF Project:	ECF 2021-21
Project Title:	The development of a high-density roadside sensor network to apportion vehicle fleet emission contribution to roadside NO_2 pollutants
Principal Investigator:	Dr Ning Zhi, Division of Environment and Sustainability, The Hong Kong University of Science and Technology
Total Approved Grant:	$960,000
Duration:	1/4/2022 to 31/3/2024
Project Status/Remarks:	On-going
Project Scope:	The purpose of this project is to develop a high-density roadside air sensor network to capture and analyse on-road vehicle emission exhaust plumes, and conduct analysis from the sensor network data to identify the apportioned contribution of various vehicle fleets toward roadside nitrogen oxide (NO_2) pollution for informed and effective emission control strategies. Specific objectives include – (a). To develop a high-density sensor network for automatic and continuous multiple-point roadside air monitoring; (b). To conduct roadside measurements in representative locations in Hong Kong and measure at least 10,000 vehicle plumes; (c). To analyse the plume concentration data and develop a fleet-based NO_2 emission factor; and (d). To quantify the fleet emission contribution and apportionment to the roadside NO_2 pollutants in different locations.
Summary of the Findings/Outcomes:	To be available upon completion of the project