

INTEGRATED SUSTAINABLE URBAN TRANSPORT  
SYSTEMS FOR SMART CITIES (SMART-SUT)

# LAUNCHING SHARED E-AUTOS IN KOCHI

## CONTEXT

Approximately 15,000 diesel and CNG-fuelled autos provide essential transport services in Kochi city today. In addition to a mode share of 8% , autos also provide the much needed first and last-mile connectivity to public transport , which serves over 50% of trips in the city.

Kerala's Electric Vehicle (EV) policy targets 1 million EVs by 2022. Kochi is in the early stages of introducing electric vehicles, including shared e-autos. These could result not only in reduced costs of operations and improved air quality, but also reduced CO2 emissions and noise, and energy security.

## OBJECTIVE

The objective of this project is to explore how e-autos could be operated in a sustainable way in the city of Kochi. Based on the outcomes of a pilot, a strategy to upscale the project to the other parts of the city will be developed. Kochi Municipal Corporation (KMC) is the implementing partners of the project, supported by the Centre for Heritage, Environment and Development (C-HED).

## CONTEXT

**1.Scoping:** detailed scoping study for a pilot of up to 50 e-autos with lithium-ion batteries in one or two locations in Kochi. This includes:

- Identification of sustainable business models
- Demand analysis and selection of pilot locations
- Technology selection (vehicle and battery type) to optimise vehicle range per charge (60–130 km), charging time (2–4 hrs), and maximum speed (25–45 km/hr)
- Cost estimation
- Identification of supporting infrastructure

**2.Evaluating the environmental impacts:** Estimation of impacts on local emissions and climate change and assessing options for end-of-life battery management

**3.Funding:** Reviewing possibilities for partially subsidising the pilot through co-funding by multiple

organisations: central, state and city-based, the latter through the GIZ SMART-SUT project and UN Habitat Urban Pathways project implemented by the Wuppertal Institute

**4.Stakeholder cooperation:** Exploring working groups (which could become stepping-stones for establishing similar coordinating mechanisms for large transport projects). These could include:

- City-based groups (the KMC, city traffic police),
- District-based groups (Ernakulam District Auto Rickshaw Drivers' Co-Operative Society, the District Revenue Department),
- State-based groups (the Motor Vehicles Department, the Kerala State Electricity Board).

**5.Upscaling:** based on monitoring the results and impacts of the pilot by surveys and energy consumption





## EXPECTED OUTCOMES

Through this project, SMART-SUT assists the city of Kochi to choose a more sustainable and stable approach to transport. This includes financial assistance and capacity-building support (including institutional strengthening, trainings, support in procuring the autos, etc.), to make e-auto operations feasible.

The current rental model for operating E-autos (as metro feeder) in Kochi is based on short-term agreements with the original equipment manufacturers. The role and capacity of the auto society is limited, and currently only provides auto drivers (who hire the vehicles on daily rent), and does not profit out of the arrangement.

The proposed business model explores the possibility of procurement of e-autos by

the auto society in such a manner that the society can own the vehicles in a period of 3 years. The society will be equipped to rent the autos to the drivers on a daily basis, and pay monthly installments of bank loans per auto from the daily rental and still make profit, leading to a sustainable and scalable operating model.

The pilot project in Fort Kochi, an island on the west coast of the city and the historic core of Kochi, will help in addressing its problem of affordable last-mile connectivity from public transit stations. Also, this project will help improve air quality and climate change mitigation: e-autos generate zero street-level air pollution, and when compared to diesel vehicles, are expected to save 30-50% GHG emissions on a life-cycle basis.

## NEXT STEPS

- Pilot project implementation by March 2020
- City-wide strategy development by mid-2020 (based on pilot project assessments)
- Implementation of city-wide strategy, including support to partners for scaling up operations to other parts of city

## Integrated Sustainable Urban Transport Systems for Smart Cities (SMART-SUT) Project

Technical cooperation project commissioned by German Ministry for Economic Cooperation and Development (BMZ) under the German Climate Technology Initiative

Project duration: 4 years. August 2017- July 2021

The project is jointly implemented by the Ministry of Housing and Urban Affairs (MoHUA) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

The project works with the three Smart Cities of Bhubaneswar, Coimbatore, and Kochi, and their respective state governments, to promote low-carbon mobility, and to plan and implement sustainable urban transport projects in the fields of public transport, non-motorised transport and modal integration. It also supports urban transport agencies to set up the required institutional structures and processes, and enhance their capacities for efficient delivery of services. A consortium comprising GFA, WRI India and the Wuppertal Institute is supporting GIZ in the implementation of this project.

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