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Funded by:



香港賽馬會慈善信託基金  
The Hong Kong Jockey Club Charities Trust



# ***Jockey Club Heavy Vehicle Emissions Testing and Research Centre***

賽馬會重型車輛排放測試及研究中心





## 賽馬會重型車輛排放測試及研究中心 JOCKEY CLUB HEAVY VEHICLE EMISSIONS TESTING AND RESEARCH CENTRE

### 成立目的

本中心是一個開放的平台，以支持政府和業界進行車輛燃料節約和低碳技術的研究和測試。中心配備有最先進的廢氣排放測試設備，包括由輕型到重型車輛發動機和車輛底盤測試，該系統是由最新的歐盟五期標準的國際權威所認證。因此，中心可提供最新的汽車排放收集、測量和測試的國際標準。

從這個基礎上，中心能夠幫助公眾更好地了解在香港有關的汽車及環境問題和汽車產業的做法，如排放要求及標準、空氣污染及預防，亦能協助政府建立檢測標準，促使有更好的排放標準。

目前，本中心商洽了許多研究項目以幫助政府制定重型車輛新的檢測與維修及排放控制標準，一個新的44噸瞬態重型底盤測功機將會安裝在本中心以進行這一切新研究，這次亦是首次在珠三角地區所設立和進行有關的工作。

本中心已由職業訓練局理事會授予卓越中心(CoE)地位，它象徵著特殊的成就和對行業及社會提供獨特的服務。中心亦是香港專業教育學院的一部分，可提供優質的教學和學習環境給香港專業教育學院和大學的學生以學習汽車工程及相關學科。

### Purpose

The centre is designed to be an open platform to support government and industry for testing and measurement of vehicle using fuel saving technology and low carbon technologies. The centre is equipped with a wide range of state-of-the-art emission testing equipment for both engine and vehicle chassis testing from light to heavy vehicles. The system is certified to the latest EURO V standard by international authority. Latest vehicle emission collection, measurement and testing to an international standard can be offered. The centre, with its unique facilities and professional work force, is capable to help the public in Hong Kong with a better understanding of environmental issues in relation to the operation of motor vehicles and the practice of the Automotive Industry, such as emission requirements and

standard, air-pollution and prevention. Currently, the centre has taken up many research projects to help the government to set up new Inspection and Maintenance standard for better emission control for heavy vehicles here in Hong Kong. A new 44 ton transient heavy duty chassis dynamometer will be installed in the center especially for these projects. The new set up and the related work will be the first in the PRD regions.

Recently, JCEC has been awarded the Centre of Excellence (CoE) status by the VTC council which symbolizes its special achievement and unique services to the trade and community. As part of the IVE, the centre will provide a quality teaching and learning environment to IVE and university students who study Automotive Engineering and related disciplines.

### 背景資料

賽馬會重型車輛排放測試及研究中心是由香港賽馬會慈善信託基金捐助港元一千六百萬元所成立，而職業訓練局也投資超過二千萬元安裝最新車輛排放和性能測量設備，旨在改善香港的空氣質素，為行業和學生提供專業培訓，支持香港特區政府各種環保測量，並幫助測試和測量輕型到重型車輛的廢氣排放及能源消耗狀況。

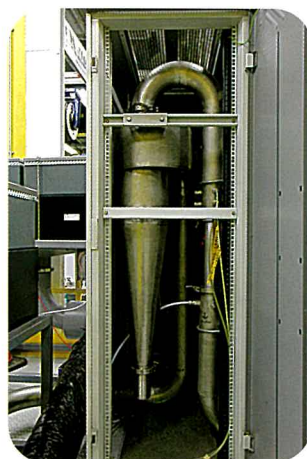
### Background

The Jockey Club Heavy Vehicle Emissions Testing and Research Centre was set up with donation by The Hong Kong Jockey Club Charities Trust. At the same time, Vocational Training Council has invested significantly to install the latest emission and energy measurement equipment in the centre. The centre which is now situated in Tsing Yi Institute of Vocational education (IVE/TY) is aimed at improving the air quality of Hong Kong, through providing professional training for the industry and students, and supporting the HKSAR government initiatives in various environmental measures. The centre is primarily set up for measuring emissions and energy consumption from light vehicles to heavy vehicles.



## 中心設施包括 Facilities

1. 英國SIGNAL 採樣和過濾系統  
SIGNAL Emission Sampling and Filtering System
2. 英國SIGNAL 廢氣 分析儀  
SIGNAL Emission Analyzers
3. 美國SIEERA 浮粒子測量系統  
SIEERA Particulate Matter Measurement System
4. 康明斯最新柴油發動機和PowerLink 重型瞬態測功機  
CUMMINS 9.3 Liter Diesel Engine & PowerLink Heavy Duty Transient Dynamometer
5. 英國 FROUDE 渦流發動機測功機 & 豐田 柴油引擎  
FROUDE Eddy Current Engine Dynamometer & Toyota Diesel Engine
6. 美國國家儀器電腦控制系統  
National Instruments Computer Control Systems
7. 美國 MUSTANG 瞬態底盤測功機  
MUSTANG Transient Chassis Dynamometer
8. AVL 瞬間油耗測試系統  
AVL fuel consumption measuring system



## 服務範圍 Services

1. 認證的歐盟五期排放測試  
Certified EURO V Light Duty Emission Testing
2. 油耗測量  
Fuel Consumption Measurement
3. 替代燃料性能測試  
Alternative Fuel Performance Measurement
4. 替代燃料消耗量的測量  
Alternative Fuel Consumption Measurement
5. 電動車 / 混合動力汽車能量消耗量的測量  
Electrical Vehicle / Hybrid Vehicle Energy Consumption Measurement
6. 發動機性能測試  
Engine Performance Measurement
7. 發動機零部件測試  
Engine Components Testing
8. 燃油添加劑節油裝置測試  
Fuel Additive or Fuel Saving Device Testing
9. 排放測試 (歐盟 EURO , 美國 FTP / EPA 和日本 JC 標準)  
Emission Testing to European, US FTP / EPA and Japanese ( JC ) Standards
10. 重型汽車安全測試  
Heavy Vehicle Safety Testing
11. 在排放標準和實踐的專業培訓  
Professional Training in Emission Standards and Practice

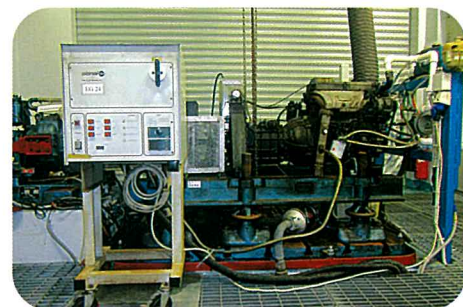




JCEC 進行了以下教育活動

The JCEC has carried out the following educational activities

1. 在香港介紹排放控制技術研討會 (部分)  
Emission Control in Hong Kong presentation (part of Technical seminar)
2. 汽車排放測量與控制 (職訓局課程的一部分)  
Vehicle Emission Measurement and Control  
(part of the course for all Environmental Tech student of VTC)
3. 發動機測試項目  
Final year project in Engine testing
4. 項目排放測量  
Final year project for emission measurement
5. 為香港城市大學, 香港大學, 香港理工大學及  
海外教育機構 — 皇家墨爾本理工大學等進行大學研究項目  
University research project for City University of Hong Kong,  
The Hong Kong Polytechnic University, the University of Hong Kong and  
oversea universities like  
Royal Melbourne Institute of Technology University (RMIT)



JCEC 還支持香港特區政府在改善空氣質素措施。

JCEC has also supported the HKSAR government in clean air initiatives.

1. 流動排放測試所有類型的車輛  
Mobile Emission Measurement all types of vehicles
2. 石油氣車輛測試計劃  
LPG testing program
3. 石油氣車輛催化器測試  
LPG catalyst testing
4. 石油氣車輛故障模擬器的設計和製造  
LPG vehicle fault simulator design and manufacturing
5. 全自動化的排放數據收集系統  
System integration for full automated emission data collection
6. 重型車輛排放測試  
Heavy Vehicle emission testing





與香港生產力促進局的合作測試  
The HKPC projects

計程車空調系統測試  
The electric air-con system



電動巴士測試  
Electric Bus Testing



其他項目 Others

燃油添加劑測試  
Fuel Additive program



節油裝置測試  
Fuel saving device program



二衝程發動機測試  
Simple two stroke engine testing



最新成就 Latest Achievement



歐盟五期 VCA 認證  
VCA Euro V Certificate

VTC 卓越表現中心  
VTC Centre of Excellence

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