HILUX FUEL CELL CONVERSION PROJECT

TOYOTA MOTOR MANUFACTURING UK LTD

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“I commit to put all members safety first in everything I do”

‘I will ensure all members feel included and if I see something I will say something”
TODAY’S SUMMARY

TOYOTA HYDROGEN STRATEGY

WHY FUEL CELL HILUX?

PROJECT OVERVIEW
OUR COMMITMENT: A CARBON NEUTRAL SOCIETY

TOYOTA HAS MORE THAN ONE SOLUTION

BEV

FCEV

PHEV

HEV
TOYOTA: WORKING TO CREATE A HYDROGEN SOCIETY

**Production**
- Toyota – Denso Electrolyser

**H2 Transport**
- Toyota – Denso Electrolyser

**Use**
- Toyota – Denso Electrolyser

**Applications**
- Toyota – Denso Electrolyser

**Technology**
- PEM Technology & IP
- H2 Storage Modules
- Fuel Cell Modules, H2 ICE & Components
ADVANTAGES OF HYDROGEN FOR LCV

- Infrastructure density required for LCV is lower than PC
- Strong performance requirements (range, payload, towing) that cannot be fulfilled by BEV
- Short refuelling time reduces wasted time for the business
- Secure the operations in case of potential electricity grid issues
- Lower weight of FC system → higher payload capacity
- Companies (fleet) move faster to ZEV to meet Carbon Neutrality Targets
PROJECT STRATEGY: WHY FUEL CELL HILUX IN THE UK?

- Hilux brand image
- FC and hydrogen advantages
- 2030 ICE Regulations
- Customer demands
- UK largest Hilux market in EU (24%)
- UK Hydrogen Society
- TMUK has capacity & 30yrs skill / experience
- UK Government funding
FUEL CELL HILUX CONVERSION
PROJECT SUMMARY

Today’s overview
- APC Funding
- Project content
- Project Master Schedule
- Target customers
- Public Relations
UK GOVERNMENT FUNDING: APC

PROJECT CONSORTIUM

TOYOTA
MANUFACTURING UK

Ricardo

D2H

European Thermodynamics Limited
Intelligent Thermal Management

Thatcham Research

UK GOVERNMENT SUPPORT FOR DEVELOPMENT OF FC HILUX
FC HILUX CONCEPT
TMUK
FUEL CELL HILUX PROTOTYPE MANUFACTURING

- First FCEV in TMUK
- First Hydrogen project in TMUK
- First major conversion in TMUK
- First HRS onsite @ TMUK
TMUK PREPARATION

1. Hilux & FCEV vehicle study

2. TMC benchmark visit

8 TMUK members visited TMC:
- PC
- Assembly
- QA
- H & S

Mottomachi Plant: Mirai vehicle production
21st-24th March

Honsha Plant: FC Stack production
24th March

Shimoyama Plant: Hydrogen Tank production
27th March

TMUK MEMBER SKILL DEVELOPMENT
PROTO BUILD IN PROGRESS

HILUX DELIVERED

PREPARATION

PROTOTYPE BUILD

TMUK TEAM
PROTOTYPE TESTING WITH ALIGNED COMPANIES

UK

GERMANY

CLEAR COMPANY TARGETS TOWARDS 2030 ZERO EMISSION VEHICLES

TOYOTA
PROMOTION

HIGH INTEREST FOLLOWING ANNOUNCEMENT

BUILD ON THE INTEREST DURING Q3 & Q4 2023 WITH STATIC & DYNAMIC VEHICLE REVEALS
START THE JOURNEY

GENERATE CLUSTERS AND DEMAND FOR HYDROGEN

PROVE PERFORMANCE IN HARD TO DECARBONISE SECTORS
THANK YOU!