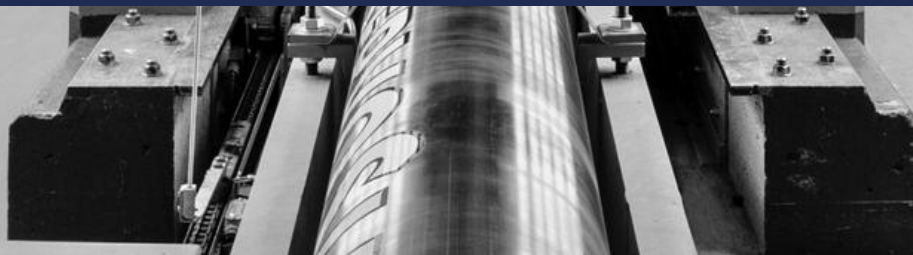


The logo for UTAC, featuring the letters 'UTAC' in a bold, white, sans-serif font. A white swoosh underline is positioned above the 'C'. The background is a grayscale photograph of a car chassis on a test rig in a large industrial facility.

UTAC

UK TESTING SERVICES

Where Mobility Innovation Meets Real World Validation





ADVANCING MOBILITY SINCE 1924

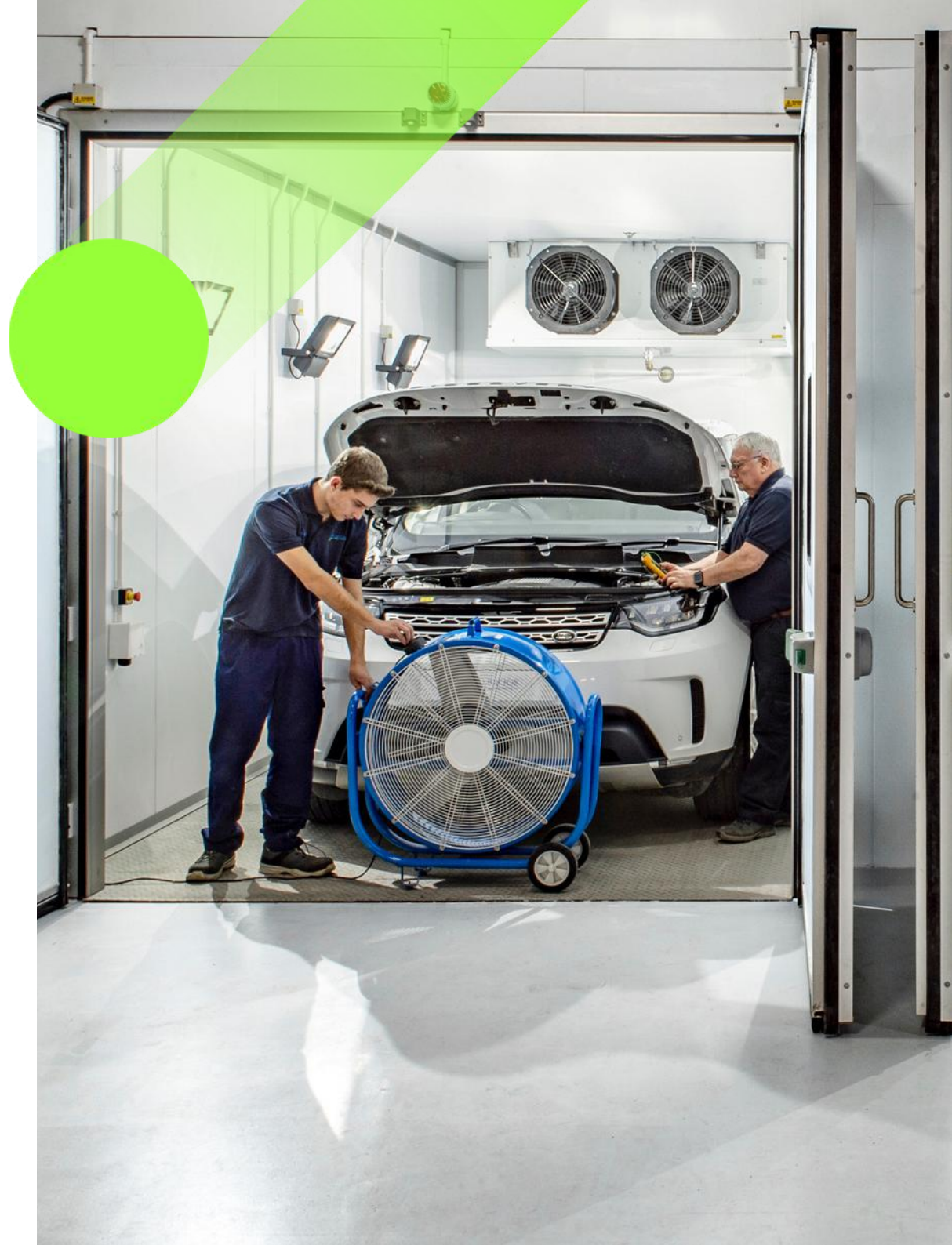
Since 1924, UTAC has been at the forefront of the mobility industry, advancing it towards a safer and cleaner future.

With a global presence and a team of trusted experts, UTAC continues to shape the future of mobility.

We strive to provide a wide range of agile services that help us to fulfill our mission:

“Leading the mobility industry to new frontiers.”

From cutting-edge simulation and cybersecurity to connected and autonomous solutions: UTAC brings together innovation and real-world expertise to move your vision forward. Discover how our full-service capabilities can power your success in tomorrow’s mobility.





NORTH AMERICA

- California
- Michigan

EUROPE

- France
- United Kingdom
- Finland
- Germany
- Italy
- Romania

AFRICA

- Morocco

ASIA

- China
- Japan
- Korea

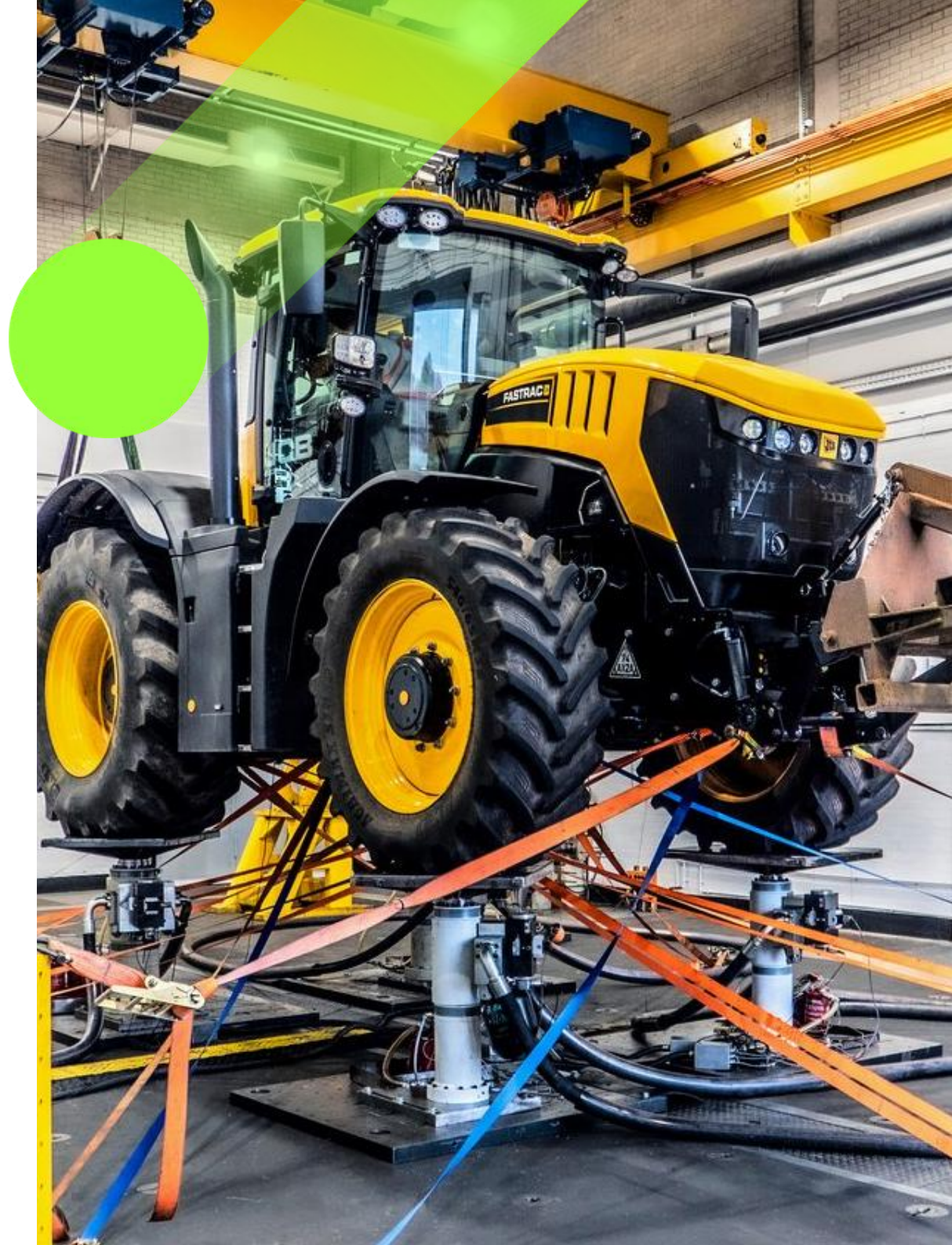
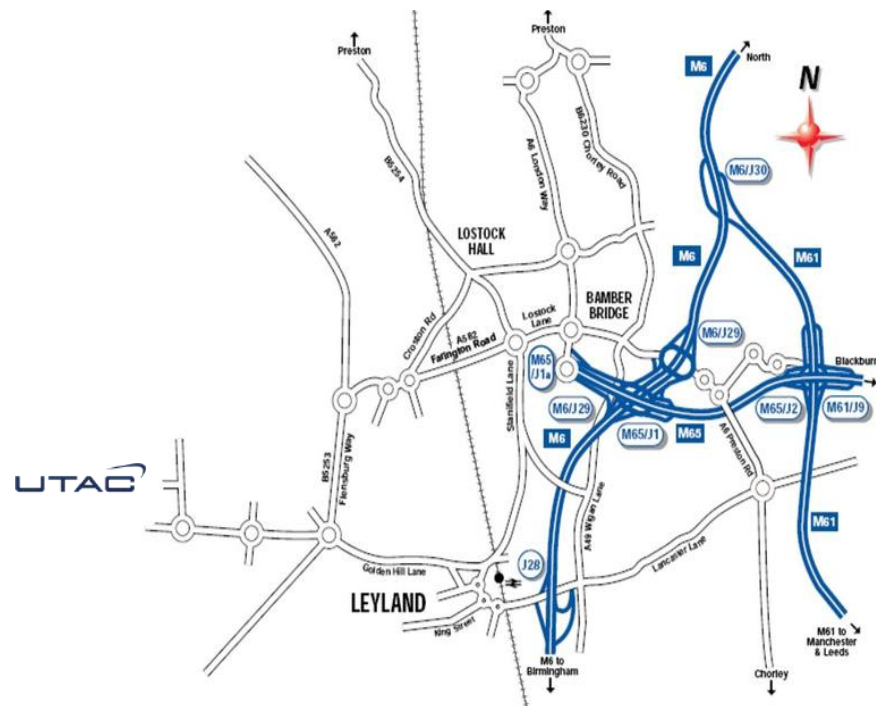
UTAC

ADVANCING MOBILITY SINCE 1924

UTAC operates a global network of proving grounds, laboratories and offices. This international presence allows us to deliver advanced testing, development, and certification services for all vehicle types, anywhere in the world, and in every environment. **Discover our sites at www.utac.com**

UTAC Leyland

Located in Northwest England, UTAC's Leyland site is equipped with advanced testing technology, enabling specialised evaluations of vehicle interiors, including seats, doors, and airbags, as well as dynamic testing for heavy vehicles such as trucks, agricultural machinery, and buses.





UTAC Millbrook

UTAC Millbrook in Bedfordshire is a leading force in electrification and future mobility, boasting a recently expanded battery test facility designed to meet the growing demands of electric vehicle development. Millbrook also features specialised laboratories for crash and fire testing, gradient testing, and facilities dedicated to connected and automated vehicle technologies.

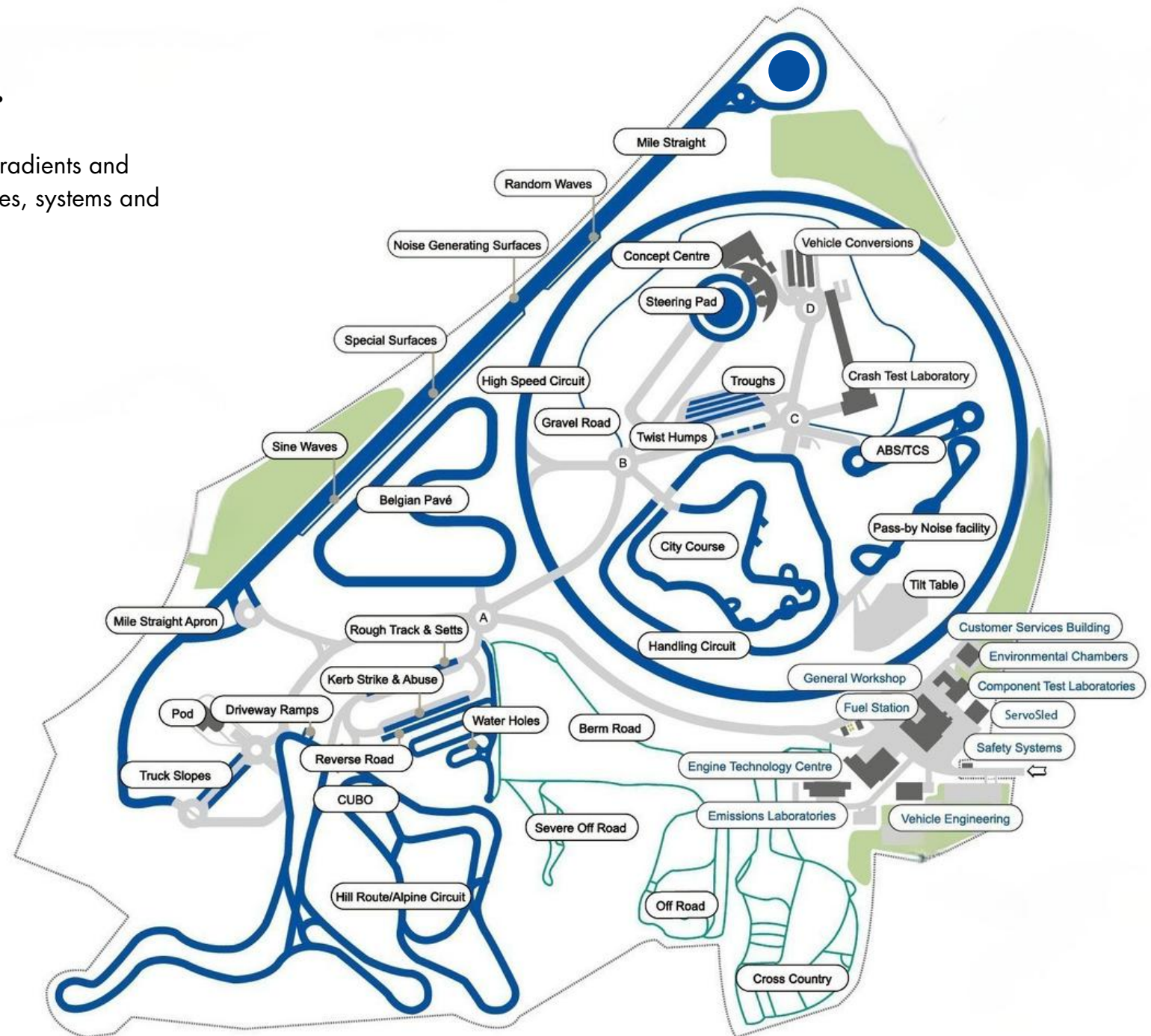
Our 700 acre proving ground ranks amongst Europe's most advanced vehicle testing and development centres. Boasting over 70 km of diverse tracks, including high-speed circuits, off-highway, alpine routes, and more.

UTAC
MILLBROOK

World Class Test Tracks.

An unrivalled variety of surfaces, gradients and challenges designed to push vehicles, systems and components to their limits.

- **Alpine Hill Routes**
- **High Speed Circuit**
- **Mile Straight**
- **City Course**
- **Handling Circuit**
- **Dynamics & Steering Pads**
- **Special & Technical Surfaces**
- **Off-Highway Routes**



An aerial photograph of a winding asphalt road on a grassy hillside. The road curves through the landscape, bordered by green grass and dense evergreen trees. A small white car is visible on the road in the distance. The road has white dashed lines and a red-paved section. The scene is framed by dark, out-of-focus foliage in the foreground and background.

Alpine Hill Routes

- 6.5km one way circuit replicating a B-road environment
- Divided into three loops that can operate independently
- Full set of interlocking gradients from 7% up to 26%
- Purpose-build environment for the evaluation of powertrains, transmissions, dynamics, braking and active systems

Test Tracks

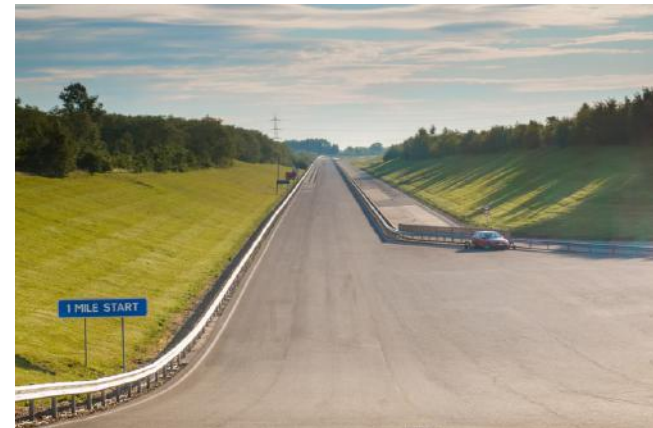
High Speed Circuit

- Mileage accumulation with constant dynamic forces for the integrated evaluation of durability, brake performance, brake cooling and powertrain cooling
- Five lanes each with neutral steer characteristics



Mile Straight

- Precisely levelled surface with fast approach and departure, ideal for evaluation of acceleration and braking performance
- Asphalt surface laid level end to end with 1 in 80 crossfall



City Course

- 1.2km course designed to emulate city driving with various markings, parking and reversing bays
- Ideal for demonstrating everyday driving in an urban environment, including steering inputs and manoeuvrability





Test Tracks

Dynamics & Steering Pad

- Exceptionally large 137m diameter circular surface, the inner 50m radius can be wetted using a central sprinkler system
- An additional tarmac dynamics pad with a 117m diameter is located at the end of the mile straight



Special & Technical Surfaces

- 1.5km Belgian Pavé facility for fast evaluation of NVH
- Additional surfaces and constructions to generate interior noise for vehicle refinement purposes



Off-Highway Routes

- Set in 100 acres of countryside, cross-country and off-road tracks provide a comprehensive range of terrains
- A range of man-made obstacles, such as axle articulation humps and the sand pit area perfectly compliment the natural terrain of long challenging hills through to tight twisty tracks
- Surfaces and features can be generated as required

Vehicle Measurement & Durability

Noise Test Facility

- Secluded and exclusive location, with nominal ambient sound pressure levels of 36 dB(A)
- Compliant to ISO 10844:2014 test track specifications for measuring noise emitted by road vehicles and tyres
- Compliance includes geometric dimensions and sound absorption characteristics



Road Load Data (RLD) Collection

- Collection of vehicle inputs
- Allows for repeatable drive data
- Data to drive test rigs for component testing
- Enable correlation with other test facilities



Durability

- Vehicle driven over known schedules
- Structural and general durability
- Allows for assessment in an accelerated manner





Powertrain - Durability, Performance & Development

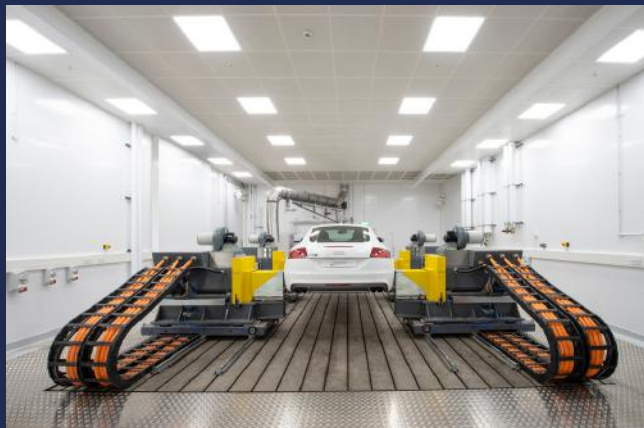
ICE Engine Testing

- 17 ICE multi fuel engine test cells
- Dynos up to 600kW
- Road Load Simulation
- Temperature & humidity controlled



EDU Testing

- 250kW continuous operation from 4,775 to 20,000rpm
- High speed input motor testing (1E test set up)
- EDU testing with supplied input motor (2E test set up)
- Axle testing (3E test set up)



Powertrain Rigs

- Vehicle-in-the-loop (VIL) simulation and test capability
- Powertrain-in-the-loop (PIL) simulation and test capability
- Test of powertrain with virtual battery simulator

Vehicle Emissions Testing

Light Duty Full Emissions Capability

- 4WD chassis dynamometer, up to 4,550kg test inertia
- Climatic control -20°C to +50°C
- Dynamic drive cycle simulation
- Facility approved to WLTP and supporting European Federal and Japanese light duty emissions regulations
- Continuous power: 220kW per axle 2WD, 330kW 4WD (total) rear
- Speed tracking fan frontal area of 0.5m² up to 140km/h and 0.3m² at 200km/h

Heavy Duty Emissions

- 4WD chassis dynamometer, up to 45,000kg test inertia
- Climatic control -20°C to +50°C
- Dynamic drive cycle simulation
- Continuous power: 450kW front; 587kW rear
- Continuous torque: 28,421N front; 40,000N rear
- 2 mobile speed tracking fans
- Can support 2WD, 4WD or Tri-axle vehicles
- Dynamic gradient profile capability





Seat Durability & Refinement

UTAC Millbrook uses its range of automated robots, pneumatic test rigs, shakers, actuators and environmental chambers.

Durability Tests Include:

- Ingress, egress, jounce and squirm durability tests
- Seat cover durability tests
- Seat structures and suspension tests
- Fatigue and fracture testing
- Environmental impact and solar loading tests
- Vibration tests on components
- Key life tests
- Automated tests of heating systems
- Wiring harness and cable loom tests
- Headrest energy absorption tests
- Materials and trim tests

Refinement Tests Include:

- Seat Noise, Vibration and Harshness (NVH) analysis
- Buzz, squeak and rattle evaluation
- Seat comfort testing

Component Testing

Vibration and Corrosion

- Electro-magnetic shakers
- Hydraulic shakers
- Multi-axis shakers
- Road load data replication
- Various corrosion chambers
- Salt fog

Climatic Chambers

- Chamber sizes 1m² to 468m²
- Temperature range from minus 60°C to plus 150°C
- Humidity range 3%RH to 98%RH
- Solar load





Component Testing

Ride Simulator

- Ride comfort benchmarking and development
- Modal analysis to identify resonant responses
- Rigid and flexible body modes



Structural Test Laboratory

- Stress and strain analysis
- 4 or 6 point beam axle testing
- Air suspension axle testing
- 7 axis testing for chassis mounted components
- Static strength, torsion, bending, fatigue,
- Durability and ultimate strength testing
- Bespoke customer rig tests



Airbag Deployment tests

- Environmental Static Airbag Deployment
- -40°C to +85°C conditioning, with surface sunload max temperature +120°C
- Environmental conditioning of front, side, curtain and knee airbags

Battery Durability & Performance Testing

Cyclers

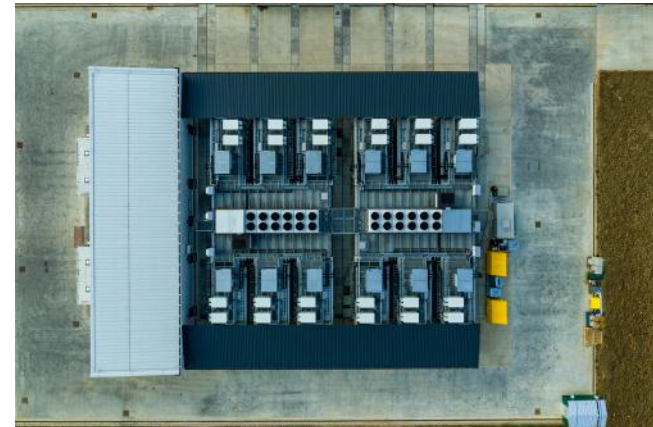
- 20V to 1,100V, up to 2,800A
- 1,000kW continuous (1,200kW peak)
- Under control of the REPS automation system the output can be changed every 10ms if required to track complex test profiles
- High speed, typ. < 2ms current rise time from 10-90%
- Constant voltage, current or power operation modes

Chambers

- W 3.0m x L 3.5m x H 2.2m (23.1m³)
- Operating temperature: -40°C to +90°C
- Up to 3K/min rate of cooling and heating
- Humidity controllable from 10% to 95% r.h. from +5°C to +85°C (+5 to +88 °C dew point)
- Maximum battery weight – 1,000kg

Battery Conditioners

- Operating temperature: -40°C to +80°C
- Control accuracy typically +/-0.2°C
- 5.4kW heating power • 8kW cooling power
- Up to 30 litres/min fluid flow rate





Battery Abuse & Certification Testing

UTAC Millbrook conducts automated battery cycling and abuse testing. This covers standard, non-standard and development testing, including the full suite of UN38.3 and ECE R100 requirements. We deliver safe battery validation and verification testing and has a thorough understanding of battery and safety standards.



- Vibration
- Mechanical crush
- Impact and shock
- Thermal shock and cycling
- Drop
- Immersion
- Penetration
- Fire resistance
- Over discharge
- Over charge
- Over temperature
- Short circuit
- Altitude abuse-testing
- Turnover

Safety Testing - Servo Sled

- 12" ServoSled, sled system
- Maximum speed 90km/h (56mph)
- Maximum acceleration 80g
- Servo-hydraulic pulse control
- Highly accurate and repeatable acceleration and velocity profiles with extremely high frequency response
- Extensive experience in automotive, rail, marine and aerospace sectors testing to worldwide standards
- Recognised facility for Healthcare tests, including wheelchair and W.A.V.C.A. (Wheelchair Accessible Vehicle Converters)
- Dummy certification laboratory
- Instrumentation laboratory
- Photographic laboratory
- Data-processing resources





Whole Vehicle Crash Test

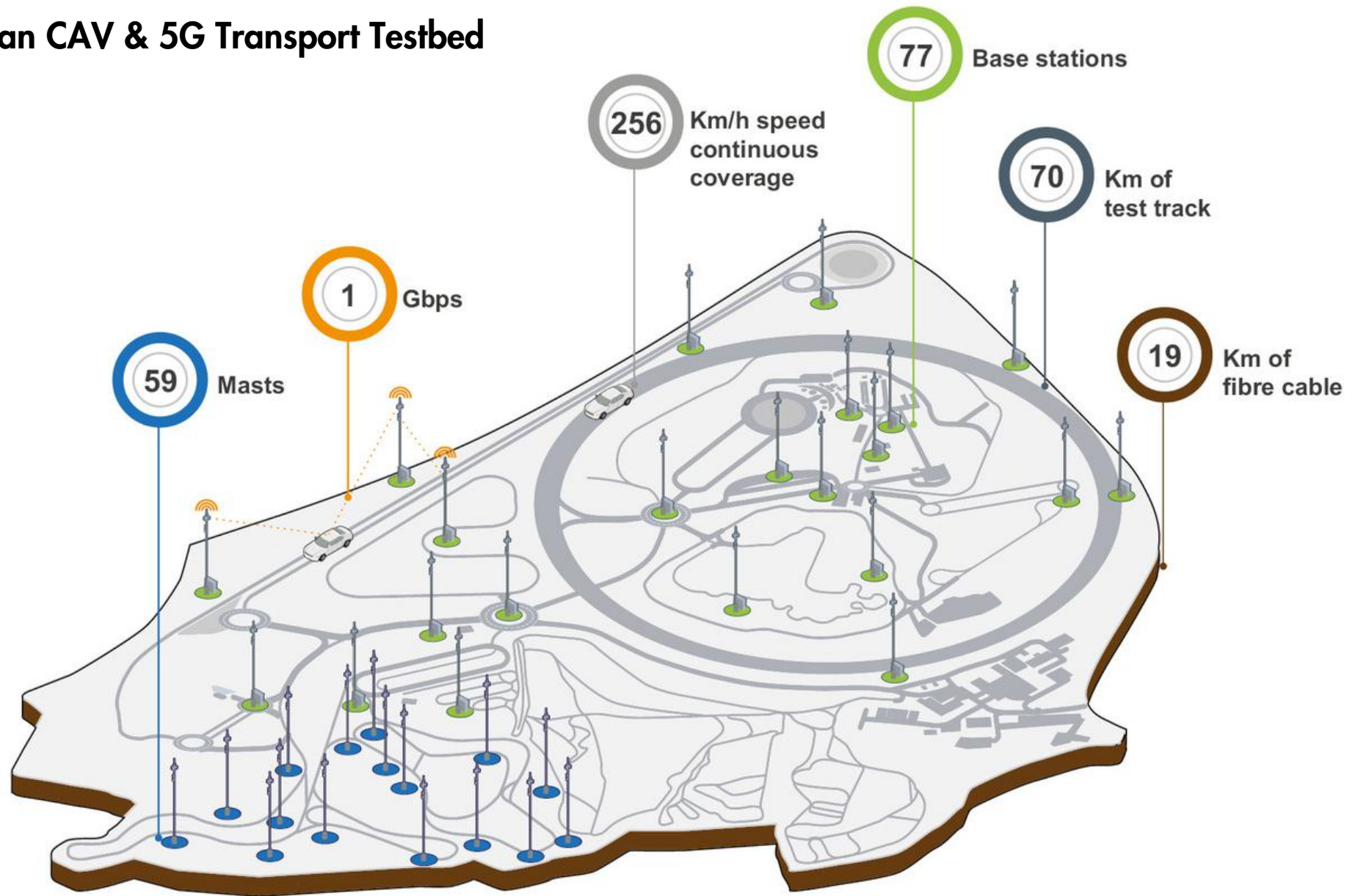
Impact Testing

- Fixed barrier frontal (0°, 30°, offset, under ride)
 - with IIHS small offset test (LH/RH)
- Side and rear impacts
- Vehicle to pole (front, side)
- Moving vehicle to stationary vehicle
- Current legislation, consumer and customer in-house test procedures
- Legislative for Type Approval, development and model correlation
- FMVSS, ECE, EEC and equivalents, TRIAS, ADR and others
- Equipped to support high complexity tests
- eCall and ERA-GLONASS

Rollover Facility

- FMVSS 208
- Ditch fall over
- Gravel/Soil trip
- Kerb trip

Urban CAV & 5G Transport Testbed





5G Infrastructure

UTAC Millbrook has a private 5G network to support ADAS (advance driver assist systems) and autonomous vehicle testing.

- Total of 100 base stations
 - 38 x 2.3GHz 4G LTE
 - 38 x 3.6GHz 4G LTE
 - 22 x 70GHz V2X mmWave
 - 19 x 3.8GHz 5G Stand Alone
 - 10 x 60GHz mesh backhaul
- 23 tiltable masts flat area
- 15 cellular masts in "hilly area"
- 11 x 70GHz mmWave masts
- 10 x 60GHz mesh stations
- 166 pieces of radio equipment
- 40 DSRC 802.11p RSU's
- CCTV
- 1cm positioning

ADAS & Autonomous Testing Equipment

UTAC Millbrook has the instrumentation, soft targets and facilities required to conduct Advanced Driver Assistance Systems (ADAS) EuroNCAP AEB, LSS, VRU and SAS protocols. Other regulatory and bespoke customer requirements can be met, with up to three individual synchronised moving targets within a single scenario.

- OxTS RT3000 inertial & navigational measurements with up to 1 cm positional accuracy when linked to OxTS RTK base station
- Site wide RTK base station with up to 2cm positional accuracy
- Time aligned and fully synchronised data acquisition hardware and software
- ABD Torus steering robot with torque measuring and full path following capabilities
- ABD combined brake and accelerator robot
- Moshon EuroNCAP Vehicle Target (EVT) with towing rig
- DTC Audio Visual Alarm Detector (AVAD)
- ABD Guided Vehicle Target (GVT)
- DRI global vehicle soft target
- ABD LaunchPad (max speed 50kph)
- 4a articulating adult and child pedestrian targets
- 4a bicycle and cyclist targets
- 4a motorbike and scooter targets
- Full synchronisation between test vehicle and targets
- Scope for additional sensors – on request





ADAS & Autonomous Testing Capabilities

Autonomous Emergency Braking (AEB)

- Static and mobile vehicle to vehicle collisions with GST and EVT
- Vulnerable road user and powered two-wheeler crossing, longitudinal, and turn across path scenarios

Lane Support Systems

- Lane departure Warning
- Lane Keep Assist
- Emergency Lane Keep

Active Cruise Control

- Blind Spot Detection
- Parking Assistance Systems
- Intelligent Speed Assistance
- Customer specific active safety testing scenarios

Test Facilities

- EuroNCAP and ECE R130 specification motorway and A-road
- ECE R130 specification 250m radius A-road
- EuroNCAP specification junction

Corporate Events

With purpose built event venues, meeting rooms, and direct track access, occupiers can showcase products and technologies in a controlled and professional environment within the proving ground.

- Vehicle launches
- Private filming location
- Training and press events
- Technology demonstrations
- Customer arrive and drive activity

With a dedicated team onsite, UTAC Millbrook can host turnkey events for up to 700 indoors and 5,000 outdoors.





Rental spaces designed around your technical needs.

Modern workshop and office environments, offering:

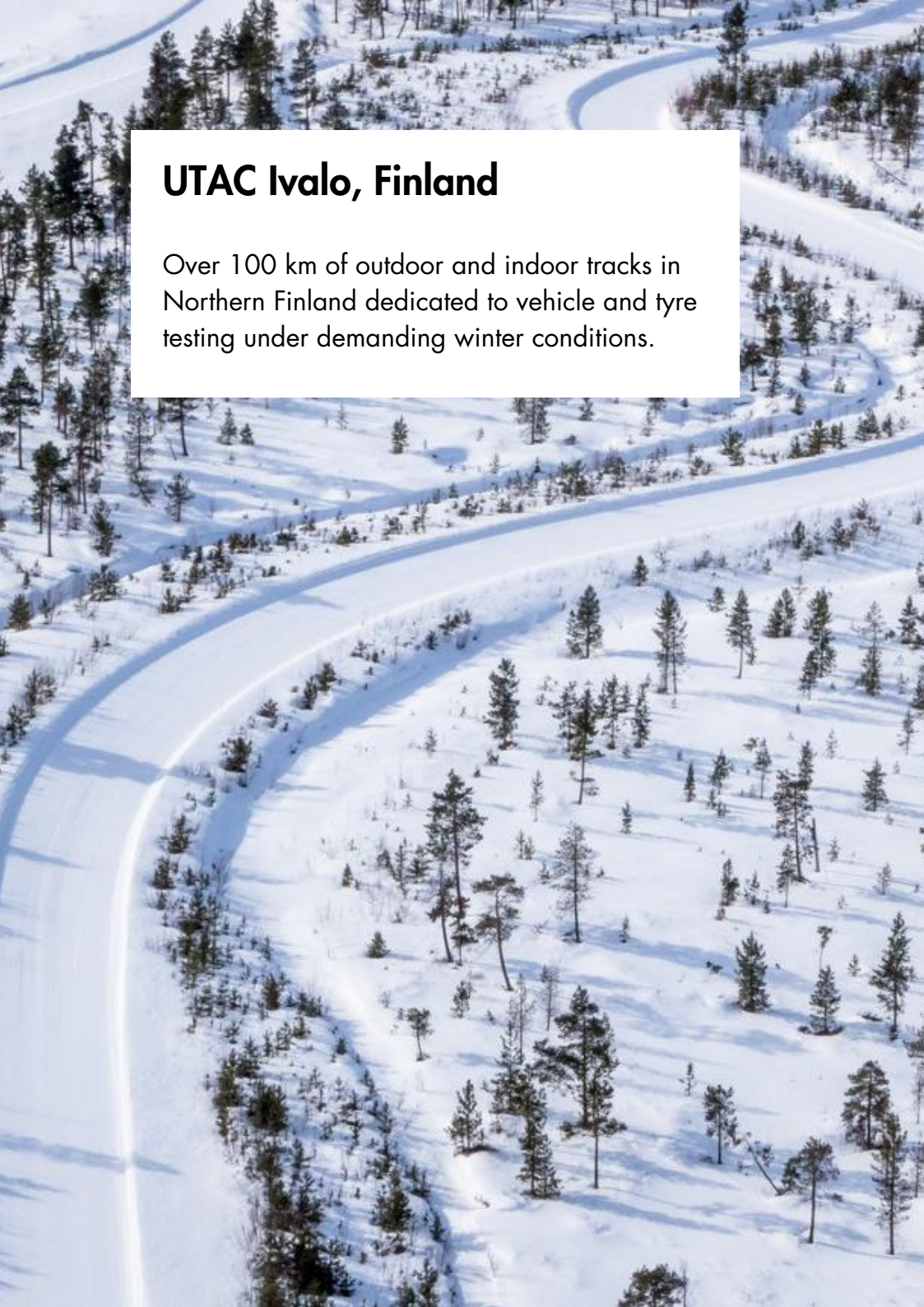
- 24/7 secure and controlled access
- Close proximity to test tracks and technical facilities
- Configurations suitable for project teams, long term programmes, or satellite operations

Engineering workshops and technical bays, suitable for:

- Vehicle build and preparation
- Instrumentation and test fitment
- Component development and inspection

Fully turnkey rental packages available inclusive of cleaning, internet and waste.



An aerial photograph showing a winding road through a snowy, forested landscape. The road is a light color, contrasting with the darker snow and the dark green of the trees. The terrain is hilly and the road curves through the landscape.

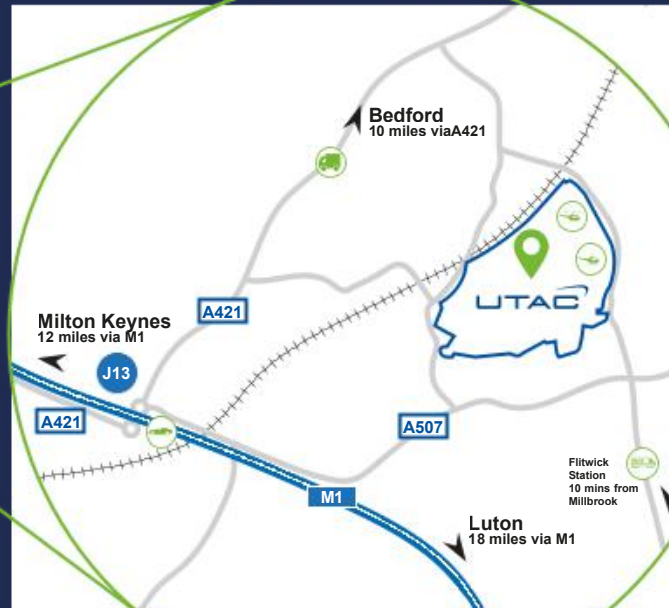
UTAC Ivalo, Finland

Over 100 km of outdoor and indoor tracks in Northern Finland dedicated to vehicle and tyre testing under demanding winter conditions.

A photograph of a straight road stretching into the distance in a desert landscape. The road is dark asphalt with white lane markings. The surrounding area is arid and sandy, with some low-lying vegetation and a clear blue sky.

UTAC Oued Zem, Morocco

Located in the heart of the desert, featuring 30 km of tracks designed to meet a wide range of needs, from testing to events.



-  www.utac.com
-  01525 408 228
-  customerservice.uk@utac.com
-  MK45 2JQ

Ideally positioned between Oxford and Cambridge, UTAC Millbrook is easily accessible from London, the Midlands, and major international transport hubs, whilst offering a discreet and secure rural setting.

Millbrook Proving Ground, Station Lane, Millbrook, Bedfordshire, MK45 2JQ

UTAC
MILLBROOK



www.utac.com

08/2026