Taxi In-Vehicle Solutions

Trapeze™
Here for the journey

In highly competitive taxi and eHail environments, operators need cost-effective and long-lasting in-vehicle solutions that maximise driver performance, enhance the passenger experience, provide critical information to the control centre, help increase revenue, and are built to withstand harsh environments.

TRAPEZE TAXI HARDWARE

Trapeze's proven and cost-effective in-vehicle solutions are flexible, have long product life cycles for the best return on investment, are easy to deploy, and simple to upgrade.

They have been proven over many years of use by world-leading transport authorities and operators - including large taxi, limousine, and private hire fleets to improve efficiency and increase performance, while also enhancing the driver and passenger experience.

FLEXIBLE OPTIONS

Our taxi in-vehicle solutions are available in three configurations – **Advanced, Intermediate,** and **Basic**, and operate effectively within a taxi's extreme environmental conditions with minimal downtime and failure rates.

Fleets can operate a mix of the three in-vehicle solutions if required. Each system is easily upgradeable and operators can seamlessly transform from the Basic to the Intermediate or Advanced solutions without replacing backend software or licenses.

One of the main advantages for Trapeze's taxi partners is that they can implement any hardware combinations that works for their strategy with the same backend system - Trapeze's TEAMS (Taxi, eHail Automated Management System) software.

Each solution is compact, secure, scalable, customisable, and integrates with multiple authorities and third-party applications.

TAILOR-MADE FOR TAXIS

Trapeze in-vehicle solutions are specifically tailored for the taxi industry and are high-capacity, low-maintenance systems.

Pick and choose which in-vehicle solution suits your needs to help you grow your taxi business.

"Whatever you need in terms of integration or enhancements, you can do it with Trapeze."
Khaled Al Nuaimi, Dubai Roads and Transport Authority

Taxi In-Vehicle Solutions

A features comparison of each in-vehicle solution, which is powered by Trapeze's TEAMS software, is shown below.

	ADVANCED SOLUTION	INTERMEDIATE SOLUTION	BASIC SOLUTION
	Suitable for: transport authorities and large taxi operators for best security, safety, compliance, comprehensive fleet management, and asset protection.	**Suitable for:** transport authorities, taxi operators, limousines, and private hire fleets interested in fleet management, basic safety features, and asset protection.	**Suitable for:** transport authorities and taxi operators interested in booking management and eHail-type systems.
Jobs			
App bookings	✓	✓	✓
Dispatch	✓	✓	✓
Service area control	✓	✓	✓
Fare estimations	✓	✓	✓
Street hails	✓	✓	✓
Passenger detection	✓	✓	
Odometer metering	✓	✓	
Ridesharing	✓		
Safety and Security			
Duress alarms	✓	✓	
Driver behaviour monitoring	✓	✓	
Anti-tampering	✓	✓	
Face recognition	✓		
Vehicle Management			
Fleet tracking	✓	✓	✓
Black trip prevention	✓	✓	✓
Immobilisation	✓	✓	
Telemetry	✓	✓	
Predictive Maintenance	✓	✓	
Driver Experience			
Notifications	✓	✓	✓
Online navigation	✓	✓	✓
Offline navigation	✓		
Job heat maps	✓	✓	✓
Keyless entry	✓	✓	
Alerts and warnings	✓	✓	
Fatigue management	✓	✓	✓
Fatigue detection (camera)	✓		

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Passenger Experience			
Easy bookings	✓	✓	✓
Lost and found	✓	✓	✓
Driver ratings	✓	✓	✓
Built-in WiFi hotspot	✓		
Language translations	✓		
Service surveys	✓		
In-vehicle information	✓		
Infotainment/advertising	✓		
Integrations			
Tollgate detection	✓	✓	✓
Wireless payment	✓	✓	✓
Wired payment devices	✓	✓	
Seat sensors	✓	✓	
Future systems	✓	✓	
CCTV	✓		
Durability			
Long-lasting	✓	✓	
Reporting and Insights			
Bookings	✓	✓	✓
Revenue	✓	✓	✓
Fleet status	✓	✓	✓
Fleet performance	✓	✓	✓
Driver performance	✓	✓	✓
Pick-ups and drop-offs	✓	✓	✓
Multi-operator management	✓	✓	✓
Vehicle maintenance	✓	✓	
Driver behaviour	✓	✓	

ADVANCED TAXI SOLUTION

In-Vehicle Computer, Smart Hub, and Rugged Screen

Trapeze's Advanced Taxi Solution is our top-end product that provides a complete, end-to-end solution to enable full-featured taxi services. It provides a better experience and enhanced security and safety for drivers and passengers, for example, camera integration, fatigue monitoring, face recognition, and secure sign-on/off via the Driver App.

High specifications create flexible functionality, such as driver behaviour and performance monitoring, vehicle tracking, fleet monitoring, advanced black trip prevention, sophisticated car security, and enhanced vehicle maintenance management systems. These features and benefits are experienced now by world-leading transport authorities and taxi operators.

Multiple payment options are supported, including POS integration for credit cards and other payment terminals.

Fleet operators can run more efficiently with optimised logistics, increased safety compliance, and reduced operating costs by increasing fuel efficiency via optimised routes and minimising unplanned vehicle maintenance. The Advanced Taxi Solution is highly resistant to tampering and interference, as it is a compact, hidden unit.

For example, the in-vehicle computer and Smart Hub can be concealed in the dashboard or the luggage compartment. An example of an Advanced Taxi Solution setup is shown in *Figure 1* below.

1. In-Vehicle Computer
2. Smart Hub
3. Rugged Screen
4. Antenna cable
5. Payment terminal
6. AI Camera

Figure 1: Advanced Taxi Solution setup

It also provides transport authorities and operators with a comprehensive operational overview, including detailed business intelligence and insights to enable significant business improvements.
New features and upgrades can be easily added over time due to multiple integration points (e.g., USB, serial, Ethernet ports), future-proofing investments and providing high returns.

Our Advanced Taxi Solution provides cutting-edge Linux computing systems, incorporating rugged components that are dustproof and waterproof.

Both the in-vehicle computer and Smart Hub are metal-enclosed, and the rugged, tempered touch glass screen (IP68 rated – dust and water resistant) makes these hardware components ideal for use in challenging environments.

All components are durable, long-lasting (~10 years), and function in extreme temperatures (-30°C to 85°C) and high vibration levels (rail certified) - ensuring reliability in harsh conditions for maximum performance. Each hardware piece is ISO 9001 and IRIS ISO/TS 22163 certified. Alternatively, the rugged screen can be substituted with an Android device, or the solution can integrate with a vehicle's existing in-dash display.

> **" The Trapeze Taxi Business Management solution is integral to the RTA's daily operations. It is mission-critital for not just our taxis, but the smooth running of public and private transport throughout Dubai."**
>
> Adel Shakeri, Transportation Director, Dubai RTA

The Advanced Taxi Solution can be integrated with vehicle management systems like the odometer for accurate metering that meets all taxi regulations.

Offline navigation is possible, which reduces operating costs as this does not consume mobile data. Camera integrations provide a cost-effective option when compared to standalone CCTV systems.

The Advanced Taxi Solution also provides enhanced passenger services, via TEAMS' Customer Connect.

Passengers have access to useful information such as tourist attractions and travel tips.

Taxi operators can generate additional revenue through digital advertising inside and outside vehicles, targeting wider audiences. Data can be leveraged to increase customer loyalty by applying insights to customise services.

Trapeze also provides maintenance support for this solution.

INTERMEDIATE TAXI SOLUTION

Smart Hub and Android Device

Trapeze's Intermediate Taxi Solution provides effective fleet management, basic safety features, and asset protection like that provided in the Advanced Taxi Solution.

It is designed as a flexible, compact, enhanced vehicle interface that connects to multiple vehicle peripherals which can be controlled by devices such as mobile computers, tablets, PDAs, or smartphones.

The Intermediate Taxi Solution is shown in *Figure 2* below.

1. Smart Hub
2. Rugged Android device or in-car screen
3. Antenna cable
4. Payment terminal

Figure 2: Intermediate Taxi Solution setup

The Smart Hub is a flexible, custom-designed device that provides vehicle security, tracking (online and offline), and predictive and preventative maintenance information.

It also minimises black trips and helps provide detailed vehicle statistics, driver performance monitoring, and provides increased security and anti-tampering. Accurate metering is provided by the odometer, and operators have increased control over driver behaviour.

The Intermediate Taxi Solution connects to a user device (smartphone or tablet) via USB, serial, WiFi, or Bluetooth, for example, to support Trapeze's Driver App. It can be used as a standalone tracking and telemetry unit, using a built-in 4G LTE modem and SIM card, with GPS. It also enables keyless entry and NFC card readers. This solution can also support an optional WiFi hotspot that connects with other in-vehicle equipment.
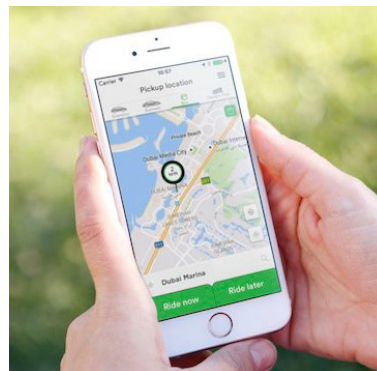
The Intermediate Taxi Solution can be easily upgraded to the Advanced Taxi Solution by adding an in-vehicle computer and rugged screen.

The Smart Hub also endures extreme conditions, and Trapeze also provides maintenance support (Smart Hub only).

BASIC TAXI SOLUTION

Android Devices

The Basic Taxi Solution requires no in-vehicle installation as Trapeze's TEAMS software is installed via an application on company or driver-supplied Android devices, such as smartphones or tablets.

The app is used for booking management, dispatch, navigation, and fleet tracking and meets all the requirements of eHail/demand response services. Payments occur wirelessly via the app.

The Basic Taxi Solution can be introduced to taxi services for rapid system deployment and then upgraded later to Intermediate or Advanced in-vehicle solutions. The Basic Taxi Solution may also be easily added to meet high demand periods like special events or seasonal peaks.

While the Basic Taxi Solution is faster to implement, operators have less control and monitoring ability for drivers and taxi fleets when compared to the Intermediate and Advanced solutions. Trapeze provides TEAMS software support for the Basic Taxi Solution that help authorities, operators, and drivers improve the passenger experience - streamlining bookings, improving rostering and dispatch, increasing paid kilometres and enhancing fleet management.

Download the TEAMS brochure to find out more.

TRAPEZE GROUP

We value long-term partnerships and stay involved post-implementation to ensure your use of Trapeze solutions is a successful one. Trapeze provides taxi in-vehicle hardware and innovative software solutions for transport authorities and taxi operators to create a world-leading service.

Find out more about our taxi in-vehicle options today. Product specifications can be provided on request.

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