

TOYOTA PM CONCEPT

Personal Mobility or Mobile Personality? - Information Technology Unites Driver and Vehicle

The trend to personalization of motor vehicles takes a novel turn into the future with the one-person PM. Thanks to state-of-the-art information technology, PM vehicles themselves take on human-like behaviours, allowing them to "socialise" by meeting, linking, and hanging out together in mobile groups.

Wearable, variable style

Rather than "driving" a single-seater PM, the experience of is closer to "wearing" one. With its unique design and functions, the PM evokes some exotic, yet vaguely familiar, lifeform. The cabin is isolated from the wheels, allowing the PM to vary its posture according to speed or for easy entry/exit. Other epoch-making design innovations include independent left/right front-wheel steering and radical hollow-centre wheels.

Driver-vehicle unity with an ergonomic focus on the personal environment

Cabin and seat shape are designed to fit almost like a glove, while integrating the driver's intention with the car's capabilities. Further enhancing driver-vehicle unity are by-wire operation via a space-input visual communication system, LED functions and other communication-facilitation features.

Toward personal mobility with feeling

PM aims to function as an extension of the individual, with capabilities designed to simulate a lifeform. Since the cabin is separate from the chassis, the vehicle can change its "pose" to facilitate entry/exit or optimise its attitudinal posture for speed. LEDs on the door tips, antennae/headlamps, side and rear panels and rear wheels illuminate in accordance with different "emotions" and situations. LED colour changes to express the current situation.

Visual communication system networks one-seater vehicles

A virtual space input display in the PM instrument panel appears to float in midair. The display switches modes to show vehicle data, location and position based information, attributes and paths of nearby PMs, and even entertainment guidance. You can also communicate or "chat" with friends in nearby PMs and access information via this versatile display. The "space input" interface employs an infrared sensor for fingertip position detection.

Drive-by-wire for intuitive operation

For the control interface, the PM has a grip-type drive controller, which integrates acceleration/deceleration and steering operation. When the lever is pushed forward, it can control steering, thereby enabling natural and simple control that capitalises on the vehicle's drive-by-wire technology. Switch modes to "rotate on the spot" and turn the dial all the way to enable independent control of left and right front wheel steering angle. The PM can then revolve in place by turning its left and right rear wheels in opposite directions. The vehicle's unique front wheels have see-through shaftless construction.

The meet, they link, ... they platoon. They're PMs

Like humans, PMs are able to communicate with each other on the move, each acting as an information source. PMs can "chat" and share information, tell each other where they are, and say which shops they like. Platooning is also possible, whereby one PM leads other PMs, which

follow on auto-pilot. Each has an on-board computer to control handling, throttle and braking and maintain a safe inter-vehicle distance. Only the lead PM needs to know where it is going. This is handy for guiding a group of PMs to a new destination or on a detour to avoid traffic congestion. With its leading-edge information technology, the PM provides a fascinating glimpse of the ideal future vehicle's potential for personalisation.

Technical Specifications

Drive system	DC brushless electric motor (rear)
Occupancy	1 person
Length	1,750-2,650mm
Width	1,465
Height	1,215-1,865mm
Wheelbase	1,100-2,000mm
Track (front)	1,250mm
Track (rear)	1,160mm
Minimum turning radius	1.2m (in entry/exit mode)

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