= Mitsubishi i @-@ MiEV =

The Mitsubishi i @-@ MiEV (MiEV is an acronym for Mitsubishi innovative Electric Vehicle) is a five @-@ door hatchback electric car produced by Mitsubishi Motors , and is the electric version of the Mitsubishi i . Rebadged variants of the i @-@ MiEV are also sold in Europe by PSA Peugeot Citroën (PSA) as the Peugeot iOn and Citroën C @-@ Zero . The i @-@ MiEV is the world 's first modern highway @-@ capable mass production electric car .

The i @-@ MiEV was launched for fleet customers in Japan in July 2009 , and on April 1 , 2010 , for the wider public . International sales to Asia , Australia and Europe started in 2010 , with further markers in 2011 including Central and South America . Fleet and retail customer deliveries in the U.S. and Canada began in December 2011 . The American @-@ only version , called " i " , is larger than the Japanese version and has several additional features .

According to the manufacturer , the i @-@ MiEV all @-@ electric range is 160 kilometres (100 mi) on the Japanese test cycle . The range for the 2012 model year American version is 62 miles (100 km) on the United States Environmental Protection Agency 's (US EPA) cycle . In November 2011 the Mitsubishi i ranked first in EPA ? s 2012 Annual Fuel Economy Guide , and became the most fuel efficient EPA certified vehicle in the U.S. for all fuels ever , until it was surpassed by the Honda Fit EV in June 2012 and the BMW i3 , Chevrolet Spark , Volkswagen e @-@ Golf , and Fiat 500e in succeeding years .

As of July 2014 , about 32 @,@ 000 i @-@ MiEV family passenger vehicles have been sold worldwide , with Japan as the leading market with over 10 @,@ 000 i @-@ MiEVs sold , followed by Norway with more than 4 @,@ 900 units , France with over 4 @,@ 700 units , Germany with more than 2 @,@ 400 units , all three European countries accounting for the three variants of the i @-@ MiEV family sold in Europe ; and the United States with over 1 @,@ 800 i @-@ MiEVs sold through August 2014 . As of early March 2015 , and accounting for all variants of the i @-@ MiEV , including the two minicab MiEV versions sold in Japan , global sales totaled over 50 @,@ 000 units since 2009 .

= = History = =

Mitsubishi i @-@ MiEV , based on the Mitsubishi i kei car , was first exhibited at the 22nd International Battery , Hybrid and Fuel Cell Electric Vehicle Symposium & Exposition in Yokohama . Mitsubishi eschews the in @-@ wheel motors (MIEV) in favour of a more conventional array of batteries , motor and inverter to replace the " rear midship " engine and fuel tank of the conventional car . Mitsubishi Motors provided three power companies with vehicles in 2006 and 2007 in order to conduct joint research to evaluate how fast @-@ charge infrastructure may be developed for EVs . Fleet testing by five power companies was conducted in 2007 . The car had a range of 130 kilometres (80 mi) for the 16 kW ? h lithium @-@ ion battery pack and 160 kilometres (100 mi) for the 20 kW ? h pack . Top speed was 130 kilometres per hour (80 mph) .

Plans were announced in 2008 to sell the i @-@ MiEV in European markets as the Peugeot iOn and Citroën C @-@ Zero . Mitsubishi began supplying the electric cars to PSA Peugeot Citroën (PSA) since 2010 , and PSA has a contractual commitment to buy 100 @,@ 000 i @-@ MiEVs over a period that remained confidential .

= = Specifications = =

= = = Powertrain = = =

The production version of the 2009 i @-@ MiEV has a single permanent magnet synchronous motor mounted on the rear axle with a power output of 47 kW and torque output 180 N ? m . The motor is water cooled , there is a conventional automobile radiator in the front of the car with an electric fan . The coolant (with antifreeze) level is monitored via a tank under the rear load platform

on the left hand side of the vehicle . (See picture adjoining .)
The vehicle uses a single @-@ speed reduction gear transmission driving the rear wheels and has a 16 kWh lithium @-@ ion battery pack . The car 's top speed is 130 kilometres per hour (80 mph) .

Under its five @-@ cycle testing , the US EPA rated the American 2012 model year Mitsubishi i with a combined fuel economy equivalent of 112 MPGe (2 @.@ 1 L / 100 km) , with an equivalent 126 mpg @-@ US (1 @.@ 87 L / 100 km ; 151 mpg @-@ imp) in city driving and 99 mpg @-@ US (2 @.@ 4 L / 100 km ; 119 mpg @-@ imp) on highways . This rating allowed the 2012 Mitsubishi i to get a higher MPG @-@ e rating than the 2011 Nissan Leaf , which was rated at 99 MPGe (2 @.@ 4 L / 100 km) combined , but the Leaf rated a better range due to the Mitsubishi i 's smaller battery pack .

= = = Battery = = =

The 16 @-@ kilowatt @-@ hour (58 MJ) lithium @-@ ion battery pack consists of 88 cells placed under the base floor . The pack has 22 cell modules connected in series at a nominal voltage of 330 V. There are two 4 @-@ cell modules placed vertically at the center of the pack and ten 8 @-@ cell modules placed horizontally . Developed by Mitsubishi and GS Yuasa for both high specific energy and high rate discharge and manufactured by Lithium Energy Japan , a joint venture of GS Yuasa Corporation , Mitsubishi Corporation and Mitsubishi Motors Corporation . The entire pack has a specific energy of 80 Wh / kg . The battery has a forced air cooling system to prevent overheating during high charge and discharge rates and consequent damage . There is an integral fan in the battery pack . For rapid charging , the battery pack is additionally cooled with refrigerated air from the cars air conditioning system .
In June 2011 Mitsubishi announced the introduction of lithium titanate oxide SCiB battery technology for its two new models of electric vehicles , the i @-@ MiEV and Minicab MiEV . The SCiB technology was developed by Toshiba , which stated that its SCiB batteries can withstand 2 @.@ 5 times more charge / discharge cycles than a typical lithium @-@ ion battery . In addition , recharging via CHAdeMO takes much less time than charging at the AC Level 2 rate used by most electric vehicle supply equipment (EVSE) , allowing the SCiB battery to reach 80 % capacity in 15 minutes , 50 % in 10 minutes and 25 % in 5 minutes . In terms of performance , the SCiB battery offers a higher effective capacity than a typical lithium @-@ ion battery , which combined with more efficient regenerative charging during braking or coasting downhill , allows the SCiB battery to deliver 1 @.@ 7 times the driving range per charge of a typical lithium @-@ ion battery of the same size . Alternatively , the carmaker could install a smaller battery with less weight and keep the same range to contribute to lower the vehicle price as compared to lithium @-@ ion batteries . Recharging is estimated to take 14 hours from a 110 volt power supply , 7 hours from a 220 volt power supply and as little as 30 minutes from a quick charging station . The SCiB is available in the Japanese market . The U.S. has a more typical lithium ion battery .

= = = Charging (types and modes) = = =

It includes two types of connectors :
Chademo : On the left hand side of the car towards the rear is the ? rapid ? DC CHAdeMO charging point. at 125 Amps . It is beneath a cover (released from inside the car) , there is a dust cover beneath to keep out insects etc . There are two large pins (for the charging current) and eight small ones for control circuitry . The cable used for this purpose is captive to the roadside charging point . When the car is on fast (DC) charge , the air conditioning system is automatically started and refrigerated air is blown through the battery pack for cooling purposes . There is a diverter flap in the ventilation system for this . From depletion , the battery may be charged to 80 % full in 20 minutes using this socket .
Mennekes : On the right hand side of the car is the ? fast ? and ? slow ? AC charging point , accessed in a similar way to the DC charge point . This is a five pin IEC62196 @-@ 2 Type 2 point .

Three large pins are the line , neutral and earth / ground . The two small pins are a control circuit . This circuit enables the charge current to be cut off when charging is complete , cuts off power if the plug is removed from the vehicle (the plug and socket are both unshuttered) , prevents both rapid and fast charging being done simultaneously and also prevents the vehicle from being driven while the plug is inserted . For ? fast charging ? , the control box (mounted at the roadside) is limited to 20 amps enabling a charge time (from depletion) of four hours . For ? slow charging ? , a non @-@ captive lead / cord is provided with the car . It is intended for use in the home or other domestic places . This has a local plug at one end and a Mennekes connector at the other . The Mennekes plug has a retaining trigger with a hole for a padlock to prevent the plug from being removed from the car if deemed necessary . There is a ? floating ? control box in the middle of this lead / cord that functions similarly to the fast charger but limits current to 10 amps so enabling an eight @-@ hour charge time (from complete depletion on 230 volts)

= = = Emergency power supply and V2G = = =

In the aftermath of the 2011 T?hoku earthquake and tsunami , Mitsubishi introduced one year ahead of schedule a device called MiEV Power Box that enables the i @-@ MiEV to supply power to home electric appliances in the event of a power outage or natural disasters . The device provides 100 @-@ volt outlets , converting the i @-@ MiEV 's direct current (DC) battery power into 100 volts alternating current (AC) to power up to 1 @,@ 500 watts of small electrical equipment . Mitsubishi estimates that the i @-@ MiEV total battery capacity is enough to provide power for between 5 and 6 hours , equivalent to one day of power consumed by an average Japanese home . The device was scheduled to be available by the end of April 2012 , at a cost of ¥ 149 @,@ 800 (US $ 1 @,@ 800) but as of November 2013 it is not clear if this is widely available .

On the other hand , Mitsubishi HEMS (Home Energy Management System) , is the V2G system .

= = = Regeneration control = = =

The manufacturers have made every effort to make the very different technology of this car appear similar to conventional cars . The lever between the front seats appears to be an automatic transmission control but is not so , though it works in a similar fashion . It is in fact a switch which reverses the electric motor and also offers a degree of control (European cars) over the regeneration . Correct use of the regeneration control can influence the range of the car . As well as " park " " neutral " and " reverse " there are three regeneration positions , intended for city driving , hilly terrain , and flat terrain respectively . Used correctly , on most journeys , a large percentage of kinetic energy and potential energy can be returned to the battery . Lifting off the accelerator / ? gas ? pedal also induces regeneration as does light pressure on the foot brake . The only other mechanical losses are frictional . The main loss is aerodynamic drag which is proportional to the square of speed , hence high speeds are inefficient and reduce range . Regeneration and power consumption can be monitored by the driver with an analogue instrument on the dashboard / control panel which shows both instantaneous power consumed and regeneration .

= = = Electrical equipment = = =

The heating of the passenger cab is by a conventional " wet " automotive system . Heat is derived from the traction battery via a resistance element . Use of the heater significantly reduces range . The traction motor cooling system runs at much lower temperatures than in a conventional car and is therefore separate from the cab heating system . While the car is charging , the interior can be preheated to alleviate the range reduction problem .

The car is fitted with air conditioning . The compressor is located beneath the HVAC controls in the car and has its own electric motor driven from the traction battery via a dedicated inverter . The condenser is mounted in front of the traction cooling radiator at the front of the car . The evaporator

is inside the HVAC control . Use of the air conditioning system can significantly reduce range . To alleviate this , the car can be set to " precool " whilst on charge . A remote control / timer device is provided that controls the preheat function , air conditioning and also controls and monitors battery charging .

There is an auxiliary , 12volt conventional lead acid battery under the bonnet / hood for the accessories . It is also needed to control and charge the main traction battery and to start the vehicle . It is charged from the main traction battery via a DC @-@ DC voltage reduction device . If it is discharged , the vehicle cannot be started , neither can the main traction battery be charged . Use of 12 volt " jump cables " from another vehicles is possible .

The steering is rack and pinion with electric power assistance .

An emergency cutoff for main battery is located under the front left hand seat . If the car is involved in a collision , there is a cutoff switch that is operated by the " G " forces involved .

= = = Wheels = = =

The front and rear wheels are different sizes . Instead of a spare wheel , a roadside repair kit with a 12 volt electric compressor (plugs into cigarette lighter) and a bottle of repair fluid is located under the cushion of the rear passenger seat .

= = = Braking system = = =

The braking system is conventional hydraulic (Power assisted) with disk brakes at the front and drum brakes at the rear . Anti @-@ lock Braking System and Traction Control System is fitted . The hand / parking brake is cable operated , acting on the rear wheels . The hydraulic fluid reservoir is under the front bonnet / hood . As there is no manifold vacuum , there is an electric vacuum pump located under the rear loading platform . There are interlocks on the braking system so that the starting up process can only be initiated when the brake pedal is pressed .

= = = Range = = =

The all @-@ electric range is 100 miles (160 km) on the Japanese test cycle . Two additional trim levels will be available in Japan beginning in late July 2011 , the entry @-@ level ? M ? with a 10 @.@ 5 kWh battery pack has a reduced range of 120 kilometres (75 mi) , and the higher @-@ level " G " with the same a 16 @.@ 0 kWh battery as the original i @-@ MiEV has a range of 180 kilometres (110 mi) . The " G " trim will be available by mid August .

The US EPA official range for the 2012 model year American " i " version is 100 kilometres (62 mi) based on the five @-@ cycle tests using varying driving conditions and climate controls . Under the LA4 driving cycle for city conditions , EPA 's rated range is 98 miles (158 km) . According to the carmaker , the city range of the 2012 Mitsubishi i was improved as compared to the previous i @-@ MiEV versions , through software upgrades and a revamped regenerative braking system .

The Australian Government 's Green Vehicle Guide estimated the i @-@ MiEV 's range to be 155 kilometres (96 mi) .

In practice range is affected by driving style , hilliness of the terrain , speed and use of passenger compartment heating and cooling . Strong head and following winds also make a noticeable difference .

= = = Towing the car (breakdown) = = =

The drive system is permanently connected to the rear wheels . This means that if there is mechanical damage to the power train the vehicle must be transported / towed with the rear (driving) wheels off the ground to prevent further damage . For other problems so long as power is available for the braking and steering system , the vehicle can be conventionally towed subject to instructions in the owner 's manual . Using the car to tow trailers is not recommended .

= = = Safety = = =

The European New Car Assessment Programme (Euro NCAP) awarded the i @-@ MiEV a four star car safety rating , earning the following ratings for each criteria . The tested model was a left @-@ hand @-@ drive 5 @-@ door hatchback registered in 2011 :

Euro NCAP also states that it " believes that the star rating of the i @-@ MiEV can also be applied to the Citroën C @-@ Zero " because the agency was informed that the Citroën C @-@ Zero is structurally identical to the Mitsubishi i @-@ MiEV and has the same interior fitting and levels of safety equipment .

The Australasian New Car Assessment Program (ANCAP) rated the i @-@ MiEV four out of five stars for crash safety , scoring 28 @.@ 35 out of 37 . This score takes into account a 10 @.@ 95 out of 16 rating in the frontal offset crash test , and a score of 14 @.@ 4 out of 16 received for the side impact test .

The U.S. National Highway Traffic Safety Administration (NHTSA) gave the 2012 model year i @-@ Miev a four out of five star crash rating .

= = = = Fire incident = = = =

In March 2013 Mitsubishi Motors reported two separate incidents with lithium @-@ ion batteries used in its plug @-@ in electric cars , one with an i @-@ MiEV and the other with an Outlander P @-@ HEV whose battery pack overheated and melted some of the battery cells . The battery packs are produced by GS Yuasa , the same company that supplies the batteries for the Boeing 787 Dreamliner , whose entire fleet was grounded in January 2013 for lithium @-@ ion battery problems . The lithium @-@ ion battery of an i @-@ MiEV caught fire at the Mizushima battery pack assembly plant on March 18 while connected to charge @-@ discharge test equipment . Mitsubishi did not issue a recall , but halted production and sales of the two models until it determines the causes of the battery problems . According to Mitsubishi , the problem with the i @-@ MiEV battery pack is related with a change in the GS Yuasa manufacturing process , and the carmaker notified fleet @-@ vehicle operators with i @-@ MiEVs whose batteries were made under the same process as those that overheated , and is working on a possible fix .

= = Production = =

Full production of the i @-@ MiEV started in July 2009 and Mitsubishi expected initial sales volume to be small , to sell up to 1 @,@ 400 vehicles by March 2010 , but expected sales to rise to 5 @,@ 000 vehicles in the following twelve months , once retail sales had started . Mitsubishi decided to target sales to corporate customers in Japan at first to allow local governments and businesses to set up recharging stations around the country . The company said initial sales were constrained by production capacity but expects production to ramp up quickly from 2 @,@ 000 units in 2009 / 10 to 30 @,@ 000 vehicles within three years as it expands production of lithium @-@ ion battery through Lithium Energy Japan , a joint venture with GS Yuasa Corporation and Mitsubishi Corporation . Production was projected to increase to 9 @,@ 000 units in its fiscal year 2010 / 11 , and to 18 @,@ 000 in the following twelve months .

Production of the left @-@ hand drive European @-@ spec i @-@ MiEV began in October 2010 . By the end of November 2010 cumulative production had reached 5 @,@ 000 units at Mitsubitshi 's Mizushima Plant . In May 2011 Mitsubishi announced a new production target of 25 @,@ 000 i @-@ MiEVs worldwide in fiscal year 2011 . The carmaker also plans to export about 15 @,@ 000 units overseas , mainly to Europe , where the company will promote sales to the European public sector , such as police departments and local governments . Production of the American @-@ spec i electric car began in late October 2011 . Since July 2009 Mitsubishi had manufactured more than 33 @,@ 000 i @-@ MiEVs and rebadge versions by March 2013 , including more than 11 @,@ 000 units rebadged in France as Peugeot iOn and Citroën C @-@ Zero , and sold in the European

market .
In August 2012 , and as a result of Europe 's debt crisis that resulted in PSA Peugeot Citroen (PSA) Group slow sales , Mitsubishi Motors announced the suspension of its supply of the i @-@ MiEV electric vehicle to PSA , although the period for supplying vehicles under their contract as part of original equipment manufacturer agreements has not yet ended . The suspension is part of the decision of several Japanese manufacturers to suspend their joint development projects and contracts with several European partners . By early August 2012 , PSA had sold a total of 6 @,@ 575 Peugeot iOns and Citroën C @-@ Zeros since their launch in Europe in 2010 , while Mitsubishi had assembled almost 11 @,@ 000 electric cars destined to PSA , leaving the French carmaker with more than 4 @,@ 400 electric cars in unsold inventory . PSA only sold 50 % of the sales target set for 2011 and according to PSA the supply was only temporarily interrupted .
In May 2014 , PSA Peugeot Citroen Chief Executive , Carlos Tavares , announced that the carmaker will decide over the next 12 months whether to continue selling electric vehicles manufactured by its partner Mitsubishi . Sales of both of PSA rebadged electric cars fell significantly from 2012 to 2013 as a result of new competition from Nissan , Renault and BMW .

= = Markets and sales = =

The i @-@ MiEV was launched for fleet customers in Japan in July 2009 , becoming the world 's first modern highway @-@ capable mass production electric car . Sales to retail customers began in Japan in April 2010 . The Mitsubishi i MiEV was the first electric car to sell more than 10 @,@ 000 units , including the models badged in Europe as Citroën C @-@ Zero and Peugeot iOn . The record , officially registered by Guinness World Records , was reached on February 2011 . Several months later , the Nissan Leaf overtook the i MiEV as the best selling all @-@ electric car .
Accounting for all vehicles of the iMiEV brand , Mitsubishi reported around 27 @,@ 200 units sold or exported since 2009 through December 2012 , including the minicab MiEVs sold in Japan , and the units rebadged and sold as Peugeot iOn and Citroën C @-@ Zero in the European market . As of July 2014 , about 32 @,@ 000 i @-@ MiEV family passenger cars have been sold worldwide since 2009 , with Japan as the top selling country market with 10 @,@ 011 i @-@ MiEVs sold . All three variants of the i @-@ MiEV family have sold over 17 @,@ 500 units in Europe as of July 2014 , with registrations led by Norway with 4 @,@ 920 units registered , followed by France with 4 @,@ 710 units , and Germany with 2 @,@ 419 units . The fifth largest country market is the United States , with 1 @,@ 831 i @-@ MiEVs sold through August 2014 . As of early March 2015 , and accounting for all variants of the i @-@ MiEV , including the two minicab versions sold in Japan , over 50 @,@ 000 units have been sold worldwide since 2009 .

= = = Australia = = =

During early 2009 the i @-@ MiEV was exhibited in Australia at the Melbourne International Motor Show , and afterwards was toured throughout the country . Beginning in mid 2009 , Mitsubishi conducted a twelve @-@ month field trial with potential electric vehicle customers , such as local , state and federal government bodies , and major fleet operators .
Sales for fleet customers began in Australia in August 2010 under leasing agreement at a price of A $ 1 @,@ 740 a month for 36 months , for a cumulative total of A $ 62 @,@ 640 after which the car has to be returned to the dealer . The initial shipment included only 40 units , but Mitsubishi Motors Australia reported that just before the launch it had received applications for more than 100 vehicles from private companies and government departments . The initial batch of vehicles leased to government and corporate fleets totals 112 vehicles .
Retail sales to the public began in August 2011 . Currently , there are no government incentive or rebate schemes for purchasing fuel @-@ efficient vehicles in the country . The new Australian i @-@ MiEV version is similar to the European @-@ spec model released in 2011 , with minor changes such as new three @-@ spoke alloy wheels , a few minor exterior tweaks including dark tinted headlights and a revised front bumper with fog lights . With an Australian Design Rules

approved range of 155 km (96 mi) , the Australian @-@ spec i @-@ MiEV is sold for A $ 48 @,@ 800 (US $ 51 @,@ 444 as of July 2011) through specially equipped Mitsubishi dealerships (one in each capital city and two in Sydney) . Mitsubishi anticipates 5 sales to the public per month . Since then a large number of dealerships across Australia have purchased scoops of these vehicles and most dealerships (mainly in Victoria) have a single i @-@ Miev in their showrooms at prices never seen in this market before . During 2011 a total of 30 i MiEVs were sold , and cumulative sales reached 252 units through December 2013 . As of March 2014 , Mitsubishi is no longer selling the i @-@ MiEV due to slow sales .

= = = Canada = = =

In January 2009 , Hydro @-@ Québec and Mitsubishi signed an agreement to test 50 i @-@ MiEV , the largest pilot test of electric cars in Canada ever . The test 's goal was to allow a better understanding of winter usage of the technology . BC @-@ Hydro and Mitsubishi had previously tested a three @-@ vehicle fleet in British Columbia . The first five i @-@ MiEVs were delivered in December 2010 and were assigned to staff from the city of Boucherville . In October 2010 , Transport Canada and Mitsubishi Motor Sales of Canada announced a partnership to test the Mitsubishi i @-@ MiEV . Transport Canada ? s ecoTECHNOLOGY for Vehicles (eTV) Program tested two i @-@ MiEVs in government facilities and in a variety of real @-@ world conditions . This program aim was to evaluate the i @-@ MiEV road performance and range .

Retail sales of the i @-@ MiEV began in December 2011 at a starting price of CA $ 32 @,@ 998 (US $ 33 @,@ 891) before any government incentives available in Ontario and Quebec . Cumulative sales through December 2014 reached 496 units .

Mitsubishi sells the US i @-@ MiEV version in Canada , although the international version was used in test fleets , and two trims are offered , standard and premium . The premium package price is CA $ 35 @,@ 998 (US $ 36 @,@ 972) and includes leather @-@ wrapped steering wheel and shift knob , 15 @-@ inch alloy wheels , premium audio system , HDD Navigation system , Bluetooth 2 @.@ 0 hands @-@ free cellular phone interface with streaming audio and USB input with voice control .

= = = Europe = = =

The European version of the i @-@ MiEV was introduced at the 2010 Paris Motor Show . Specific features of the European version include a new design to the front and rear bumpers to meet EU regulations , re @-@ arranged center stack in the instrument panel , improved interior comfort and both active and passive safety features have been improved with the addition of Active Stability Control (ASC) , as well as side and curtain airbags , all included as standard equipment . The European MiEV achieves an all @-@ electric range of 150 kilometres (93 mi) under the European NEDC driving pattern .

Mass production of the European i @-@ MiEV began in October 2010 at Mitsubishi 's Mizushima plant , along with production of its siblings by PSA Peugeot Citroën , the Peugeot iOn and the Citroën C @-@ Zero . In January 2011 , Mitsubishi shipped 2 @,@ 500 i @-@ MiEVs from Japan and began sales in 15 countries : Austria , Belgium , Denmark , France , Germany , Ireland , Italy , the Netherlands , Norway , Poland , Portugal , Spain , Sweden , Switzerland , and the United Kingdom , and further expand the European roll out through 2011 . Mitsubishi also run demonstration programs with the i @-@ MiEV in the Principality of Monaco , Iceland , and Denmark . The price of the European version vary by country waqs set to around ? 33 @,@ 000 to ? 35 @,@ 000 (US $ 41 @,@ 900 to US $ 44 @,@ 400) . The carmaker aimed for a final cost to the customer of under ? 30 @,@ 000 (US $ 38 @,@ 000) or equivalent after government incentives .

= = = = Austria = = = =

Retail deliveries began in 2011 . A total of 704 units have been registered in Austria through

December 2013 , including 332 C @-@ Zeros , 254 i MiEVs , and 118 iOns .

= = = = Denmark = = = =

Deliveries began in 2011 . A total of 550 units have been registered in Denmark through December 2013 , including 227 iOns , 202 C @-@ Zeros , and 121 i MiEVs .

= = = = Estonia = = = =

On March 3 , 2011 , the government of Estonia confirmed the sale to Mitsubishi Corporation of 10 million carbon dioxide credits in exchange for 507 i @-@ MiEV electric cars . The deal also includes funding to build 250 express charging stations in larger towns and main highways by 2013 , and will subsidize the first 500 private buyers of any electric car approved by the European Union . The first 50 i @-@ MiEVs were delivered in October 2011 and this official fleet will be assigned for use by municipal social workers . During the first round of allocations of the electric cars , municipalities requested only 336 of the 507 i @-@ MiEVs available . Several local authorities have stated concerns about the electric car performance during harsh winter conditions , maintenance costs and the i @-@ MiEV ' reliability on difficult countryside roads .

= = = = France = = = =

The i @-@ MiEV family sold 1 @,@ 326 units in 2011 , representing a market share of 50 @.@ 4 % of electric car sales in France . Sales were led by the Citroën C @-@ Zero with 645 units followed by the Peugeot iOns with 639 vehicles , and the i @-@ MiEVs with 42 units sold in 2011 . In 2011 PSA Peugeot Citroën was awarded a contract to supply 3 @,@ 900 electric cars to the French Government , to be used by government officials in Paris . Since its introduction in 2010 , the i @-@ MiEV family has sold 4 @,@ 772 units through December 2014 , including 2 @,@ 419 iOns , 2 @,@ 241 C @-@ Zeros , and 112 i @-@ MiEVs .

The C @-@ Zero is available for rental starting at ? 35 (US $ 51) for half a day . The electric car is rented by the MultiCity vehicle rental service in selected French cities . The C @-@ Zero is available in the Paris region at six locations : the Gare Montparnasse , Gare de Lyon and Gare du Nord train stations , Paris @-@ Orly Airport , Porte Maillot and Nanterre .

= = = = Germany = = = =

The i @-@ MiEV was launched in Germany in December 2010 at a price of ? 34 @,@ 990 (~ US $ 51 @,@ 000) . Germany does not have government purchase subsidies . The only incentive available is an exemption from the annual circulation tax for a period of five years from the date of first registration . On August 30 , 2012 , approximately 100 Citroen C @-@ Zeros were deployed in Berlin as part of the Multicity Carsharing program . The number of cars is expected to grow to 500 by year end . Sales of the i @-@ MiEV family represented 50 @.@ 6 % of all electric car sales in the country in 2011 . Combined sales of the three variants peaked in 2011 , with 1 @,@ 146 units registered , and then fell to 788 units in 2012 and 413 in 2013 . As of December 2014 , a total of 2 @,@ 494 units have been sold consisting of 976 i @-@ MiEVs , 965 C @-@ Zeros , and 553 iOns .

= = = = Italy = = = =

Retail deliveries began in February 2011 . Cumulative sales totaled 540 units through December 2013 including 295 C @-@ Zeros , 189 iOns and 56 i @-@ MiEVs .

= = = = Netherlands = = = =

Since its launch in the Netherlands in 2011 , a total of 563 units have been sold through December

2013 , including 266 iOns , 166 C @-@ Zeros , and 131 i MiEVs .

= = = = Norway = = = =

Since deliveries began in January 2011 , the i @-@ MiEV became the best selling electric car in the country , and the 1000th i @-@ MiEV was delivered in November 2011 . A total of 2 @,@ 240 electric cars were sold in Norway during 2011 , of which , 1 @,@ 050 were i @-@ MiEVS , 210 were Citroen C @-@ Zeros , and 217 Peugeot iOns , for combined sales of 1 @,@ 477 units representing together a 66 % share of all electric cars sold during the year . Registrations climbed to 1 @,@ 670 units in 2012 , then fell to 1 @,@ 094 in 2013 , and stabilized in 2014 with 1 @,@ 093 units . Cumulative registrations through December 2014 reached 5 @,@ 334 units , including 2 @,@ 589 i @-@ MiEVs , 1 @,@ 352 C @-@ Zeros , and 1 @,@ 393 iOns .

= = = = Spain = = = =

Retail sales began in December 2010 and the i @-@ MiEV price starts at ? 29 @,@ 153 before sales tax or any government incentives . A total of 233 i @-@ MiEV family electric cars were sold during 2011 , representing 58 % of all electric vehicles sold in Spain that year . Cumulative sales through December 2013 reached 546 units including 204 iOns , 196 i @-@ MiEVs and 146 C @-@ Zeros .

= = = = Sweden = = = =

Since their inception a total of 196 units have been registered in Sweden through December 2013 , including 92 i MiEVs , 67 C @-@ Zeros , and 37 iOns .

= = = = Switzerland = = = =

Deliveries began in 2011 . Cumulative registrations totaled 615 units through December 2013 , including 342 i @-@ MiEVs , 155 C @-@ Zeros and 118 iOns .

= = = = United Kingdom = = = =

In December 2009 Mitsubishi began an electric vehicle trial in the UK with a fleet of 25 i @-@ MiEVs . The i @-@ MiEV demonstration is part of the project Coventry and Birmingham Low Emission Vehicle Demonstrators (CABLED) , which is running in the English Midlands with a variety of vehicles including plug @-@ in hybrids and the extended range electric Jaguar XJ . In March 2010 , the company reported that after the first three @-@ month period the trial fleet ran an average of 23 miles (37 km) a day , have been parked 97 % of the time , and most of the individual trips were under 5 miles (8 km) . Another key finding in the test report is that the vehicles were driven in temperatures as low as ? 10 ° C (14 ° F) during the winter period , and it was observed a drop @-@ off in usage during extremely cold weather , when only essential journeys are made .

In March 2010 , Mitsubishi announced that the i @-@ MiEV would be sold at a price of GB £ 38 @,@ 699 (~ US $ 55 @,@ 870) , but in August 2010 the company reduced the price to GB £ 28 @,@ 990 (~ US $ 45 @,@ 100) . Sales to the public in the UK began on January 2011 , which coincided with the date the GB £ 5 @,@ 000 Plug @-@ in Car Grant came into effect . Mitsubishi authorized 13 sales centres with two in London and the rest spread across England , Scotland and Northern Ireland . In April 2011 Hertz Rent @-@ a @-@ Car added two i @-@ MiEVs to its fleet of vehicles in London and intends to add more across the UK later in 2011 . The i @-@ MiEVs are offered as rental vehicles to Hertz on Demand members and these electric cars will be supported by 16 Hertz @-@ installed quick @-@ charge stations located in and around London . A total of 862 units have been registered in the UK through June 2013 , including 401 iOns , 260 i MiEVs , and 201 C @-@ Zeros .

In June 2016 , reports surfaced that the i @-@ Miev was no longer being sold in the UK , and no more new vehicles would be available .

= = = Japan = = =

The i @-@ MiEV was launched for fleet customers in Japan in late July 2009 , after Mitsubishi 's more than 40 years in development of electric vehicles . Initial price was set at ¥ 4 @,@ 590 @,@ 000 (US $ 46 @,@ 500) . The Japanese government is offering subsidies of up to ¥ 1 @,@ 390 @,@ 000 , and some local governments are also offering additional subsidies that could bring the price down to as low as ¥ 2 @,@ 200 @,@ 000 . Mitsubishi reduced the price of the vehicle by ¥ 619 @,@ 000 (US $ 6 @,@ 700) to just below ¥ 4 @,@ 000 @,@ 000 two days before it went for retail sales in Japan in April 2010 to compete with the Nissan Leaf . As of early 2010 there were 60 charging stations in Japan .

On June 2010 Mitsubishi Motors announced that is aiming to cut the price of its electric vehicles to ¥ 2 million (US $ 21 @,@ 890) by fiscal year 2012 to obtain price parity in the showrooms with hybrid electric vehicles . Mitsubishi is expecting that mass production of lithium ion batteries from its battery plant coming online in April 2012 will allow to reduced battery cost from its current ¥ 2 @.@ 5 million to less than ¥ 1 million . On March 2010 , the company said it had received about 2 @,@ 000 advance orders in Japan for the vehicle . Cumulative sales reached 3 @,@ 000 units in Japan by October 2010 . Sales in the Japanese market raised from 986 in 2009 to 2 @,@ 340 in 2010 , and then stabilized at 2 @,@ 290 units in 2011 and 2 @,@ 295 in 2012 . Sales fell to 1 @,@ 491 units during 2013 , and to 1 @,@ 021 units during 2014 . As of December 2014 , cumulative sales reached 10 @,@ 423 i @-@ MiEVs since July 2009 .

Two new trims levels were launched in the Japanese market in the second half of 2011 . Beginning in July 25 , the lower @-@ level " M " trim will be sold for ¥ 1 @,@ 880 @,@ 000 (US $ 23 @,@ 200) after the government subsidy . The " M " trim has a 10 @.@ 5 kWh battery and its equipment and trim specification were adjusted to allow a more accessible price . The " M " trim range is 120 km (75 mi) on the JC08 @-@ cycle . The higher @-@ level " G " trim will be available by mid @-@ August at a price varing from ¥ 2 @,@ 600 @,@ 000 (US $ 32 @,@ 100) to ¥ 3 @,@ 800 @,@ 000 (US $ 47 @,@ 000) . The " G " trim has the same 16 @.@ 0 kWh battery as the original i @-@ MiEV , but the new trim realizes around a 20 % increase in its single charge range on the J08 @-@ cycle , offering 180 km (110 mi) . The " G " has LED headlamps and rear combination lamps , 15 @-@ inch alloy road wheels , leather @-@ wrapped steering wheel and shifter knob and other high @-@ grade equipment , such as a navigation system and heated seats for the driver and front passenger as standard .

= = = United States = = =

The first fleet and individual customer deliveries in the U.S. took place in December 2011 . Mitsubishi initially announced a base price of US $ 27 @,@ 990 , but in September 2011 raised the base price to US $ 29 @,@ 125 plus the destination charge and prior to the federal tax credit and other incentives available in California and other states . The American version of the Mitsubishi i @-@ MiEV was unveiled at the November 2010 Los Angeles Auto Show . During the LA show , Mitsubishi announced it decided to drop the " MiEV " from the name and the US version will be named simply as " i " electric vehicle .

The U.S.-only version is enlarged , has redesigned front and rear bumpers , and includes more features than the Japanese and European versions in order to meet crash standards , government mandates , and the preferences of the U.S. consumers . The American version is 285 millimetres (11 @.@ 2 in) longer than the Japanese version , 110 millimetres (4 @.@ 3 in) wider , and slightly taller . It also has advanced airbags and the mandated tire @-@ pressure monitoring system (TPMS) , has an upgraded interior and features more accessories .

The entry @-@ level ES trim starts at US $ 29 @,@ 125 , the SE trim is at US $ 31 @,@ 125 , and the SE Premium version is priced at US $ 33 @,@ 915 including an HDD navigation system and

better entertainment and audio options . These prices do not include an US $ 850 destination charge . For either of the models , available options include a factory @-@ installed CHAdeMO fast @-@ charging port for US $ 750 and the Cold Zone package , which includes a battery warming system and heated outside mirrors for US $ 150 . The reservation process for the U.S. began on April 22 , 2011 , and customers were required to pay two deposits : US $ 299 for the car and US $ 99 @.@ 99 for a required home inspection . The carmaker decided to waive the US $ 100 fee for the first 2 @,@ 000 people who placed an order and then buy the car . Mitsubishi is only accepting PayPal as the method of payment for these online transactions . Mitsubishi began sending order confirmation emails and offering optional accessories by early September 2011 . In November 2010 , Mitsubishi announced partnerships with Eaton and Best Buy for sales and home installation of recharging units .

Initial availability is limited and the initial roll @-@ out markets include California , Hawaii , Oregon , and Washington , followed by the Northeastern states . Nationwide availability is expected by mid 2012 . The first delivery to a fleet customer took place on December 8 , 2011 in San Francisco . The first delivery went to City CarShare , a non @-@ profit carsharing service that operates in San Francisco , Oakland , and Berkeley . The first individual customer delivery took place on Honolulu , Hawaii , on December 12 , 2011 . Sales increased from 80 units in 2011 to 588 in 2012 , and rose to 1 @,@ 029 during 2013 . Sales fell to only 196 in 2014 . A total of 1 @,@ 893 i cars have been sold in the U.S. through December 2014 .

Changes to 2014 model year vehicle include driver and front passenger heated seats , CHAdeMO DC quick charge port , battery warming system , heated side view mirrors , rear door speakers , 8A / 12A switchable Level 1 charging cable (approximate charge time from near empty to fully charged - 22 hours for 8 amp / 14 hours for 12 amp) , charge port lamp , leather @-@ covered steering wheel and shift knob , passenger @-@ side vanity mirror with lid , numerous decorative color / trim upgrades , aluminum wheels , front fog lights , new daytime running lights (DRL) , black @-@ out door sash trim , US $ 6 @,@ 130 lower price before incentives .

= = = Other countries = = =

Chile

The i @-@ MiEV was launched in May 2011 at a price of CLP27,7 million (US $ 60 @,@ 000) . Initial availability is limited to 25 units . The first public quick charging station in the country was opened in April 2011 in preparation for the arrival of the first i @-@ MiEV electric cars . As of August 2012 , only 10 units have been sold . As of 2015 the dealer is no longer selling the i @-@ MiEV , it has been replaced by the Outlander plug @-@ in hybrid .

Costa Rica

The i @-@ MiEV was launched in February 2011 at a price of US $ 61 @,@ 500 . Costa Rica does not have any government incentives for electric cars . According to Mitsubishi , Costa Rica was selected at the first market launch in the Americas due to its environmental record . Initial availability will be limited to 25 to 50 units . Sales are oriented to supply mainly fleet customers including government agencies and electric companies .

Hong Kong

On December 2009 , the Hong Kong Government and other corporation began testing the i @-@ MiEV , totaling 30 vehicles tested until May 2010 . Sales to the public in Hong Kong began in May 2010 at a price of HK $ 395 @,@ 000 (~ US $ 50 @,@ 631) .

Malaysia

The i @-@ MiEV was released in Malaysia in March 2013 at a price starting at RM136,118 (approx US $ 43 @,@ 995) , becoming the first electric car sold in the country . Mitsubishi expects to sell more than 50 units during its first year in the market . The Penang Second Bridge highway patrol unit , JKSB Ronda using i @-@ MIEV for patrolling and to provide assistance to commuters on the bridge . Seven charging stations were also set up at the toll plaza on the mainland , two of them being rapid chargers which are able to give an 80 per cent charge in 30 minutes .

New Zealand

Between January and March 2009 the i @-@ MiEV was brought to New Zealand as part of an electric vehicle trial , during which the i @-@ MiEV travelled the entire country , testing infrastructure and demonstrating the vehicle to the public . As of March 2011 there were 8 i @-@ MiEV in use in Wellington , as a field trial sponsored by the Wellington City Council , New Zealand Post , Meridian Energy , The Wellington Company and Mitsubishi Motors . Sales to the public are scheduled for July 2011 at a price of NZ $ 59 @,@ 990 (~ US $ 51 @,@ 325) , and the number of units will be limited .

Russian Federation

The i @-@ MiEV was launched in June 2011 at a price of ???.1,799,000 (~ US $ 64 @,@ 946) . The price would be sat at ???.999,000 (~ US $ 28 @,@ 948) on 1 February 2014 . There were 211 cars sold in 2013 , many of them bought by government organizations . As of 2013 @-@ 2014 i @-@ MieV is the only electric car sold in Russia .

Singapore

In November 2010 Mitsubishi signed an agreement with the Singaporean government to introduce electric vehicles in the country . Mitsubishi will supply 25 i @-@ MiEVs in 2011 to the Economic Development Board , the Energy Market Authority and the Land Transport Authority , which are part of a multi @-@ agency EV task force . This agreement is part of a three @-@ year US $ 20 million test program that will deploy charging infrastructure for electric vehicles and evaluate the cost benefits of EVs for future adoption . The delivery of the first batch of 10 i @-@ MiEV electric cars is scheduled for May 2011 .

Thailand

In December 2010 , Mitsubishi Motors and the government of Thailand agreed to start fleet testing electric vehicles for a possible launch of i @-@ MiEV . In July 2011 , a new agreement was signed to begin the trials with the participation of the Metropolitan Electricity Authority (MEA) and PEA ENCOM International (PEA) , two of Thailand 's electricity distribution companies .

United Arab Emirates

A test fleet of 10 i @-@ MiEVs was deployed in Masdar City in Abu Dhabi in 2011 as part of a one @-@ year pilot to test a point @-@ to @-@ point transportation solution for the city as complement of its sustainable public transportation systems , the Personal Rapid Transit (PRT) and the Freight Rapid Transit (FRT) , both of which consist of automated electric @-@ powered vehicles .

= = = Global sales = = =

As of July 2014 , about 32 @,@ 000 i @-@ MiEV family passenger cars have been sold worldwide since 2009 . The following table presents total retail sales by year since deliveries of the i @-@ MiEV began in July 2009 for the top selling national markets by variant (Mitsubishi i @-@ MiEV / i , Peugeot iOn and Citroën C @-@ Zero) through June 2014 .

= = Awards and recognition = =

" 2009 Japan Automotive Hall of Fame Car Technology of the Year " award in October 2009 .

" Japanese Car of the Year Most Advanced Technology " awarded during the 41st Tokyo Motor Show in October 2009 .

" Ecobest 2009 " by AUTOBEST in January 2010 .

" Environment Special Grand Prize " awarded during the 25th International Automobile Festival , Paris , France on February 2010 .

The i @-@ MiEV was one of the five finalists to the 2011 Green Car Vision Award .

The 2012 model year American @-@ spec i @-@ MiEV was one of the five finalists for the 2012 Green Car of the Year .

The American @-@ spec i @-@ MiEV was rated first in the " 2012 Greenest Vehicles of the Year " list elaborated by the American Council for an Energy @-@ Efficient Economy .

The 2012 model year American @-@ spec i @-@ MiEV ranked first in United States Environmental Protection Agency ? s (EPA) 2012 Annual Fuel Economy Guide , and between November 2011

and June 2012 ranked as the most efficient EPA certified vehicle in the U.S. for all fuels ever , until it was surpassed by the Honda Fit EV .