

5. A history of environmental protection at Mitsubishi Motors

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Year	Development of products and technologies	Management and production operations, etc.
1966	●R&D on electric vehicles conducted in association with Tokyo Electric Power	
1969	●Gas turbine R&D begins	
1970		●Mitsubishi Motors spun off from Mitsubishi Heavy Industry
1971	●Limited production of light commercial electric vehicles	
	●Involvement in R&D on electric city buses, electric buses delivered to Kyoto and Kobe transportation bureaus	
1972	●Announcement of low-emission MCA engine	
1977	●Announcement of low-emission, high-efficiency MCA-JET engine	
1979	●R&D on methanol-powered car begins	
	●Development of prototype gas-turbine truck	
1980	●MCA-JET engine wins the Japan Society of Mechanical Engineers' (JSME) prize for technology	
1982	●High-fuel efficiency Orion 1400MD engine announced	
1986	●Cyclone engine offering high combustion efficiency announced	
1987		●MMC wins the Minister of International Trade and Industry's award for tree planting at its Shiga plant
1988	●Announcement of world's first pre-stroke control fuel injection pump to reduce NOx emissions from diesel engines	
1989	●Eterna Sigma methanol car road tests begin	●Project team established to examine global environmental issues
		●Diamond Star Motors (now Mitsubishi Motor Manufacturing of America) awarded the Prize for Outstanding Environmental Contribution by the U.S. Industrial Development Survey Association
		●Nagoya plant-Okazaki awarded a special award by Aichi Prefecture for its greenification activities
1990	●Long-term tests of Gallant FFV (methanol car) conducted by Californian Energy Commission	
	●Pre-stroke control fuel injection pump wins JSME's prize for technology	
	●MMC participates in Japanese Ministry of International Trade and Industry's (MITI) Auto Ceramic Gas Turbine Project	
1991	●Announcement of MVV engine	●Plastic parts weighing at least 100g marked with identifying code
	●Joint development of Lancer electric car with Tokyo Electric Power	
1992	●MVV engine wins Automobile Technology Society's prize for technological development	●Introduction of cogeneration system at Nagoya plant-Oye
	●Announcement of MIVEC engine combining high fuel efficiency and high output	●Mizushima Plant commended for contribution to the environment by Okayama Prefecture
	●Start of research into reducing particulate emissions from diesel trucks	
	●Awarded Japan Gas Turbine Society's prize for technology for development of ceramic turbine rotor	
1993	●Joint development of Libero electric vehicle with Tokyo Electric Power, delivery of 30 vehicles to Tokyo Electric Power and Tokyo government	●MMC Environmental Plan formulated and Basic Philosophy on the Environment established
	●Light hybrid passenger car (ESR) exhibited at the 30th Tokyo Motor Show	●MMC Environmental Council established
	●Start of road tests of methanol-powered Canter	
1994	●Libero electric vehicle goes on general sale	●CFCs entirely eliminated from production processes
	●Start of model business for introduction of Gallant methanol-powered vehicle	
	●Sales of buses fitted with hydraulic hybrid systems (MBECS) start	
	●Start of trial sale of methanol-powered Gallant	
	●Development of Canter natural gas vehicle	
	●Elimination of CFC-12 coolant from air conditioners in all new models and switch to HFC-134a for all vehicles	
	●Launch of moves to reduce use of lead in new models	
	●Introduction of technology to strip paint from plastic parts in order to better greater recycling	

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1995	<ul style="list-style-type: none"> ●Development and announcement of world's first high-fuel efficiency, high-output gasoline direct injection (GDI) engine ●Development of Mitsubishi HEV, tested by California Air Resource Board ●Announcement of MBECS-II (first diesel car to pass the 1999 exhaust controls) ●Canter HEV developed and exhibited at 31st Tokyo Motor Show ●Road tests start on city bus fitted with DPF system 	<ul style="list-style-type: none"> ●Kyoto plant-Shiga awarded the Prime Minister's environmental contribution award for its contribution to tree-planting campaigns ●Elimination of 1.1.1-trichloroethene from all production processes
1996	<ul style="list-style-type: none"> ●Announcement of vehicles powered by GDI engines (Gallant, Legnum) ●GDI engine awarded the Minister of International Trade and Industry's award by the Energy Conservation Center ●Development of mechanical AT "INOMAT" ●MBECS-III offering improved high efficiency goes on sale ●First ever common-rail fuel injection system adopted for mass-produced tractor engine ●LPG Canter goes on sale ●DPF system for city buses enters commercial use, 30 vehicles delivered to Yokohama 	<ul style="list-style-type: none"> ●MMC Environmental Plan revised ●Recycling Committee established in the MMC Environmental Council
1997	<ul style="list-style-type: none"> ●GDI engine wins JSME and Auto Technology Society prizes for technological development ●MMC awarded the 1997 Environmental Contribution Award for the Prevention of Global Warming for developing and encouraging the wider use of GDI engines ●CNG Canter goes on sale ●Joint development of low-cost, high-performance lithium-ion battery with Japan Storage Battery ●Approximately 20% reduction in use of HFC-134a coolant in air conditioners for the Chariot Grandis ●World-beating thermal efficiency achieved in MITI Auto Ceramic Gas Turbine Project 	<ul style="list-style-type: none"> ●Launch of recovery and recycling of old bumpers replaced by dealers ●Introduction of cogeneration system at Kyoto Plant ●Nagoya Plant-Okazaki and Tokyo Plant-Kawasaki take part in Environmental Agency's PRTR Pilot Project ●All eight plants take part in voluntary PRTR trials organized by Keidanren ●Publication begins of "Plant Environmental Topics" for distribution to suppliers, etc. ●Environmental Liaison Council established to liaise between main affiliates and members of the MMC Group
1998	<ul style="list-style-type: none"> ●MVV engine fitted as standard in all minicars built under the new minicar standards ●Low-emission Gallant, Legnum and Aspire go on sale ●Development of parts made from waste paper and use in new Pajero model ●CNG Aerostar goes on sale ●Development of easy-to-recycle TEO weather strip suitable for all vehicles 	<ul style="list-style-type: none"> ●Announcement of MMC's voluntary ELV Recycling Action Plan ●Completion of nationwide system for recovery and destruction of CFC-12 coolant used in air conditioners ●Nagoya, Kyoto and Mizushima Plants acquire ISO14001 certification ●Abolition of use of tetrachloroethene and dichloromethane chlorine cleaning agents
1999	<ul style="list-style-type: none"> ●Development of GDI Sigma series ●New Pajero model fitted with direct injection diesel passenger car engine ●Development of Pistachio GDI-ASG vehicle ●Establishment of project team to investigate ways of reducing vehicle weight 	<ul style="list-style-type: none"> ●Replacement of Basic Philosophy on the Environment by new MMC Environmental Guidelines ●Establishment of Environmental Affairs Department ●Publication of first MMC Environmental Report ●Tokyo Plant acquires ISO14001 certification (all domestic works now ISO14001 compliant)
2000	<ul style="list-style-type: none"> ●New Lancer Sedia fitted with GDI-CVT ●Pajero IO fitted with GDI turbo ●Hybrid electric drive system for large buses developed, and exhibited at Tokyo Motor Show 	<ul style="list-style-type: none"> ●Launch of Green Procurement (suppliers requested to cooperate in environmental activities) ●Development of environmental management systems for dealers
2001 (to March)		<ul style="list-style-type: none"> ●Emissions of waste for landfill disposal eliminated at the Nagoya and Kyoto Plants