

# Research & Development

## R&D Sites

Mazda is dedicated to developing vehicles that are distinctive and innovative, using the latest and most advanced technologies to satisfy the diverse needs of customers worldwide. To accomplish this, Mazda created a global R&D network with operations in Japan, the United States, Germany and China.



	Name	Location	Activities
Japan	Headquarters, R&D Divisions	Fuchu-cho, Aki-gun, Hiroshima	<ul style="list-style-type: none"> <li>•Product and engineering planning</li> <li>•Design development</li> <li>•Product development</li> <li>•Advanced research for significant new technology</li> </ul>
	Mazda R&D Center (Yokohama)	Yokohama	<ul style="list-style-type: none"> <li>•Product and engineering planning</li> <li>•Advanced design development</li> <li>•Advanced research for significant new technologies</li> </ul>
U.S.A.	Mazda North American Operations (MNAO)*1	Irvine, California	<ul style="list-style-type: none"> <li>•Technology and market trend studies in the North American market</li> <li>•Design development for the North American market</li> </ul>
		Flat Rock, Michigan	<ul style="list-style-type: none"> <li>•Evaluation of product conformity with the North American market standards</li> </ul>
Europe	Mazda Motor Europe G.m.b.H. (MME) European R&D Centre	Oberursel, State of Hessen, Germany	<ul style="list-style-type: none"> <li>•Technology and market trend studies in the European market</li> <li>•Design development for the European market</li> <li>•Evaluation of product conformity with the European market standards</li> </ul>
China	Mazda Motor (China) Co., Ltd. China Engineering Support Center	JiaDing District, Shanghai	Technology and market trend studies in the Chinese market

\*1 Mazda North American Operations (MNAO) is a generic organizational name which comprises Mazda Motor of America, Inc., Mazda Canada, Inc., Mazda Motor de Mexico S. de R. L. de C.V., and Plaza Motors Corp. (As of December 31, 2008)

## Comprehensive Vehicle Proving Grounds

Name	Location	Start of operations	Land area	Activities
Miyoshi Proving Ground	Hiroshima, Japan	June 1965	1,677,000m <sup>2</sup>	Mazda's main proving ground: used to develop basic vehicle functionality for driving, cornering, and stopping. Also, contributes to comfortable and safe vehicle engineering by providing test areas for stability tests, crash tests, and durability tests.
Mine Proving Ground	Yamaguchi, Japan	May 2006	603,000m <sup>2</sup>	Ongoing development of test course facilities that are unavailable at the Miyoshi Proving Ground for further product improvements.
Hokkaido Kenbuchi Proving Ground	Hokkaido, Japan	January 1990	4,700,000m <sup>2</sup>	Technology development and functional tests on frozen roads of systems such as AWD, ABS, TCS*2, and DSC*3 that ensure safe driving under hazardous frozen / snow conditions.
Hokkaido Nakasatsunai Proving Ground	Hokkaido, Japan	January 2002	206,000m <sup>2</sup>	Mazda's second proving ground in Hokkaido is for developing vehicle functions for differing conditions in various climates. Mainly performs development tests for safe-driving systems such as ABS, TCS, and DSC under frozen conditions.

\*2 Traction Control System (TCS): Mechanism to optimize a vehicle's traction according to the driving conditions.

\*3 Dynamic Stability Control (DSC): DSC integrates the 4-wheel Anti-lock Braking System (ABS) and Traction Control System (TCS) to optimally control the engine output and 4-wheel individual brake force to prevent side skids. In addition, the system maintains stable driving conditions while cornering on slippery roads or during evasive steering to avoid hazards.