

**The Economic Effects on Michigan of the
Altair Engineering, Inc. Facility Location Decision**

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Abstract

Altair Engineering, Inc., a developer of product engineering software for visualization, simulation and process automation, is considering locating a 105,000 square foot office building in Troy, Michigan to accommodate the growth of the company. The new facility would employ an additional 475 people by 2004. We estimate that by 2012, this location will have generated a total of 725 jobs in the state. Total state government revenues through 2012, net of MEGA costs and adjusted for inflation, would increase by \$22,074,000 (2000 dollars) due to the location of Altair Engineering, Inc.

The purpose of this study is to estimate the potential economic and fiscal benefits to Michigan of Altair Engineering, Inc., a developer of product engineering software for visualization, simulation and process automation, locating a 105,000 square foot office building in Troy, Michigan to accommodate the growth of the company (SIC 7372). Investment activity would take place between 2000 and 2004, with an investment of \$26.03 million. The facility would employ an additional 475 people and be at full production by 2004.

The estimates of the benefits include the total number of jobs created in Michigan (by major industry, including spin-off jobs), and the associated personal income and state government revenue. Benefits net of the MEGA incentive package, from 2000 to 2012, are shown in the attached table. The MEGA incentive package includes relief from 100 percent of the single business tax for the period 2001 to 2004, and from 50 percent of the single business tax for the period 2005 to 2008; it also includes a tax credit to the company equal to 100 percent of the state income tax rate on the payroll (gross wages) of employees hired at the facility as a result of the project for the period 2001 to 2004, equal to 75 percent for the period 2005 to 2010, and equal to 50 percent for the period 2011 to 2012.

The total employment effects, reported in the first line of the table, include the direct jobs created at the facility itself plus spin-off jobs. The spin-off jobs are generated from two sources, increased purchases from Michigan suppliers and spending by people who receive income due to the increased economic activity. The construction activity is expected to generate a total of 40 jobs in 2000 and 179 jobs in 2001; almost all of these jobs are temporary. In 2004, the first year of full operations, an additional 818 jobs are generated in the state. We estimate that by 2012, this location will have generated a total of 725 additional jobs in the state. The total number of jobs created (direct plus spin-off) for every direct job introduced constitutes the "employment multiplier." The employment multiplier for the location averages 1.6 over the period 2004 to 2012. Sectoral detail on the employment gains is also shown in the table.

Personal income is shown in the next section of the table. Personal income is defined as the income of Michigan residents from all sources, after deduction of contributions to social insurance programs but before deduction of income tax and other personal taxes. As shown in the table, if Altair Engineering, Inc. were to locate in Michigan under the incentive program, state personal income in 2004 would be higher by \$47.6 million (in current dollars) than it would be without the facility, and in 2012 it would be \$64.7 million higher. Adjusted for inflation, these numbers in 2000 dollars would be \$34.8 million in 2004 and \$38.9 million in 2012.

The gain in economic activity results in higher state government revenues. We estimate that in 2004, the first year of full operations, the facility would generate \$3,808,000 in additional gross state government revenue, and that the MEGA package would provide a \$1,627,000 incentive to Altair Engineering, Inc. Thus, the Altair Engineering, Inc. facility location would increase state government revenues in 2004 by \$2,181,000, net of MEGA incentive costs.

Over the period 2000 to 2012, gross state government revenue is projected to increase by \$45,648,000 (in current dollars) due to the location of Altair Engineering, Inc. The MEGA incentive package for Altair Engineering, Inc. is forecast to cost \$12,227,000 over the period, resulting in a net increase in state government revenue of \$33,421,000. Adjusted for inflation, the total net increase in state government revenue from 2000 to 2012 would be \$22,074,000 in 2000 dollars.

None of these estimates include the nonmeasurable effects that would produce additional economic and fiscal benefits for Michigan, such as the intangible advantages of influencing other location and expansion decisions.

**Economic and Fiscal Effects on Michigan of the Altair Engineering, Inc. Facility Location
Net Benefits with the Incentive Package**

Economic/Fiscal Indicator	2000	2001	2002	2003	2004	2005	2010	2012	Total 2000-2012
Total Employment	49	346	331	552	818	782	717	725	—
Manufacturing	2	9	0	0	0	0	0	0	—
Nonmanufacturing	47	337	331	552	818	782	717	725	—
Retail Trade	6	45	45	77	115	105	86	84	—
Services	15	162	255	423	623	605	573	574	—
Other	26	130	31	52	80	72	58	67	—
In current dollars (thousands):									
Personal income	2,100	15,700	18,200	30,800	47,600	50,000	59,700	64,700	570,600
Gross state revenue	168	1,256	1,456	2,464	3,808	4,000	4,776	5,176	45,648
MEGA cost	0	430	744	1,139	1,627	1,188	1,028	739	12,227
State revenue net of MEGA cost	168	826	712	1,325	2,181	2,812	3,748	4,437	33,421
Adjusted for inflation (thousands of 2000 dollars):									
Personal income	2,100	13,018	14,329	23,498	34,758	34,918	37,279	38,920	380,701
Gross state revenue	168	1,042	1,147	1,880	2,781	2,794	2,982	3,114	30,456
MEGA cost	0	357	586	869	1,188	830	642	445	8,382
State revenue net of MEGA cost	168	685	561	1,011	1,593	1,964	2,340	2,669	22,074