

**The Economic Effects on Michigan of the Nanovation
Technologies of Michigan, Inc. Facility Location Decision**

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Abstract

Nanovation Technologies of Michigan, Inc. is considering purchasing the existing Optical Imaging Systems, Inc. facility in Northville, Michigan and retrofitting the facility for the manufacture and distribution of integrated optical components. Products manufactured at the facility would include switches, splitters, couplers, waveguides, filters, and attenuators in both Silica-on-Silicon and Indium Phosphide technology. The new facility would employ an additional 539 people by 2005. We estimate that by 2011, this location will have generated a total of 1,145 jobs in the state. Total state government revenues through 2011, net of MEGA costs and adjusted for inflation, would increase by \$35,343,000 (2000 dollars) due to the location of Nanovation Technologies of Michigan, Inc.

The purpose of this study is to estimate the potential economic and fiscal benefits to Michigan of Nanovation Technologies of Michigan, Inc. purchasing the existing Optical Imaging Systems, Inc. facility in Northville, Michigan and retrofitting the facility for the manufacture and distribution of integrated optical components (SIC 3674). Products manufactured at the facility would include switches, splitters, couplers, waveguides, filters, and attenuators in both Silica-on-Silicon and Indium Phosphide technology. Investment activity would take place between 2000 and 2002, with an investment of \$41.56 million. The facility would employ an additional 539 people and be at full production by 2005.

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 2011, are shown in the attached table. The MEGA incentive package includes relief from 100 percent of the single business tax for the period 2006 to 2011; it also includes a tax credit to the company for the period 2001 to 2011 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.

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 137 jobs in 2000, 94 jobs in 2001, and 12 jobs in 2002; almost all of these jobs are temporary. In 2005, the first year of full operations, an additional 1,258 jobs are generated in the state. We estimate that by 2011, this location will have generated a total of 1,145 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

2.2 over the period 2005 to 2011. 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 Nanovation Technologies of Michigan, Inc. were to locate in Michigan under the incentive program, state personal income in 2005 would be higher by \$79 million (in current dollars) than it would be without the facility, and in 2011 it would be \$98.3 million higher. Adjusted for inflation, these numbers in 2000 dollars would be \$58.73 million in 2005 and \$64.43 million in 2011.

The gain in economic activity results in higher state government revenues. We estimate that in 2005, the first year of full operations, the facility would generate \$6,320,000 in additional gross state government revenue, and that the MEGA package would provide a \$1,267,000 incentive to Nanovation Technologies of Michigan, Inc. Thus, the Nanovation Technologies of Michigan, Inc. facility location would increase state government revenues in 2005 by \$5,053,000, net of MEGA incentive costs.

Over the period 2000 to 2011, gross state government revenue is projected to increase by \$62,664,000 (in current dollars) due to the location of Nanovation Technologies of Michigan, Inc. The MEGA incentive package for Nanovation Technologies of Michigan, Inc. is forecast to cost \$13,457,000 over the period, resulting in a net increase in state government revenue of \$49,207,000. Adjusted for inflation, the total net increase in state government revenue from 2000 to 2011 would be \$35,343,000 in 2000 dollars. These calculations do not include any revenue losses due to the property tax abatement or the investment tax credit. If the costs of the abatement and the tax credit were included, the net revenue gain to state government would be slightly less.

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 Nanovation Technologies of Michigan, Inc. Facility Location
Net Benefits with the Incentive Package**

Economic/Fiscal Indicator	2000	2001	2002	2003	2004	2005	2010	2011	Total 2000-2011
Total Employment	225	452	420	783	1,003	1,258	1,143	1,145	—
Manufacturing	67	182	205	354	453	557	539	539	—
Nonmanufacturing	158	270	215	429	550	701	604	606	—
Retail Trade	29	62	58	114	145	181	161	162	—
Services	48	79	75	157	199	252	214	218	—
Other	81	129	82	158	206	268	229	226	—
In current dollars (thousands):									
Personal income	10,200	22,800	24,500	44,400	60,400	79,000	94,700	98,300	783,300
Gross state revenue	816	1,824	1,960	3,552	4,832	6,320	7,576	7,864	62,664
MEGA cost	0	419	741	973	1,221	1,267	1,563	1,616	13,457
State revenue net of MEGA cost*	816	1,405	1,219	2,579	3,611	5,053	6,013	6,248	49,207
Adjusted for inflation (thousands of 2000 dollars):									
Personal income	10,200	20,162	20,814	35,745	46,531	58,734	63,165	64,430	563,173
Gross state revenue	816	1,613	1,665	2,860	3,722	4,699	5,053	5,154	45,054
MEGA cost	0	370	629	784	940	942	1,043	1,059	9,711
State revenue net of MEGA cost*	816	1,243	1,036	2,076	2,782	3,757	4,010	4,095	35,343

*These estimates do not include any state government revenue losses due to the Investment Tax Credit or the property tax abatement.