Machinery Production in Ohio

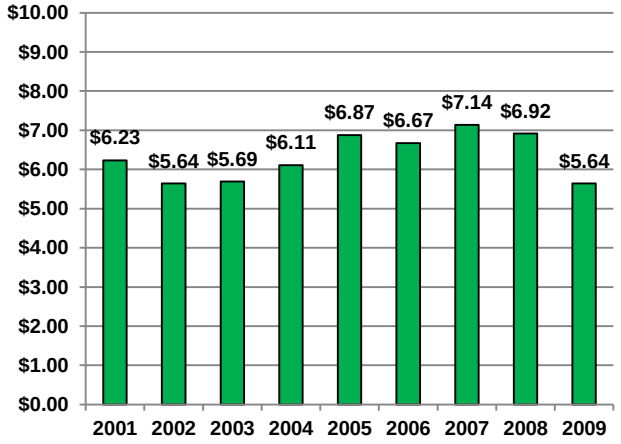
Ohio's Standing

- $5.6 to $7.1 billion of machinery goods and equipment have come from Ohio's factories each year during recent years.
- Machinery manufacturing (NAICS 333) has ranged from 1.2 to 1.6 percent of the state's total economic output in most years.
- Machinery production is concentrated in Ohio as evidenced by two facts: 5.0 percent of net industry output in 2009 came from plants in Ohio, while a corresponding 3.3 percent of the nation's gross domestic product originated here.
- The general concentration of machinery production in Ohio – 5.3 percent of value-added in the nation – reflects the specific concentration of four groups: metal working (3335) – 10.7 percent; other general purpose (3339) – 7.7 per-cent; heating-ventilation-air-conditioning and commercial refrigeration (HVAC-CR, 3334) – 6.8 percent; and machinery for specific manufacturing industries (3332) – 5.9 percent.
- Ohio ranks 2nd in the nation in the production of metal working machinery (for cutting and forming, as well as molds, special tools, dies, rolling mills, etc.) and other general purpose machinery (for packaging, welding and soldering, as well as pumps, compressors, dispensers, elevators, escalators, conveyors, overhead cranes and hoists, power-driven hand tools, machinery incorporating fluid power, etc.). It ranks 3rd in heating-ventilation-air-conditioning and commercial refrigeration, including air purification and industrial fans and furnaces. It ranks 4th in machinery for printing, food processing and producing semiconductors or textiles, as well as working wood, rubber, plastics, etc.
- Ohio's overall rank of 5th in machinery production is due to the concentration of consumer and supplier industries here, particularly primary and fabricated metals, printing, furniture, food processing, transportation and electrical equipment, and manufacturing chemical, coal, petroleum, rubber and plastic products.

The Variety of Production

- Nearly three-quarters of industry production in Ohio is geared toward machinery and equipment that can be used can be used by many industries or incorporated into a variety of products.
- The remaining quarter-plus of industry production is machinery and equipment used by businesses in specific industries: whether in agriculture, construction, mining, other manufacturing (i.e., "industrial"), or various commercial and service enterprises.

Machinery Manufacturing in Ohio: Gross Domestic Product (in billions of dollars)



Source: U.S. Bureau of Economic Analysis, 2011

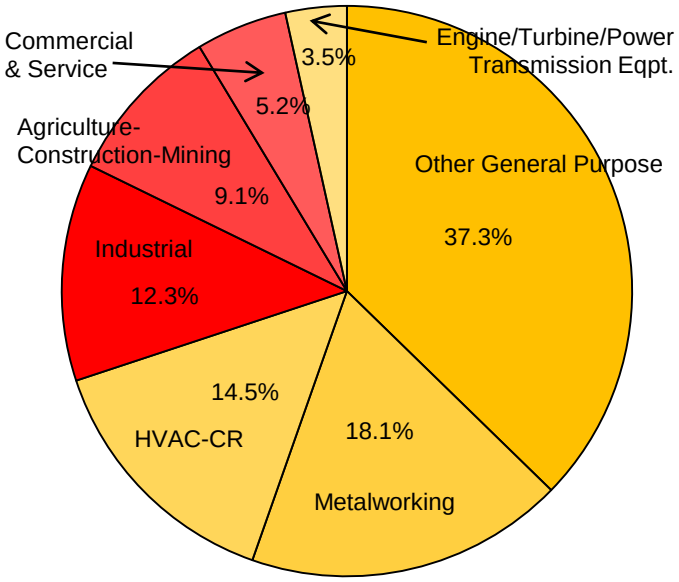
Ohio's Share of National Machinery Production

NAICS Code	Major Industry/ Industry Groups	Value-Added: Percent	Rank
333	Machinery	5.3%	5th
3331	Agricultural/Construction/Mining	1.9%	15th
3332	Industrial	5.9%	4th
3333	Commercial/Service	3.8%	9th
3334	HVAC/Commercial Refrigeration	6.8%	3rd
3335	Metal Working	10.7%	2nd
3336	Engines/Turbines/Power Transmission*	1.8%	13th
3339	Other General Purpose	7.7%	2nd

* - Excludes transmissions and gasoline engines for motor vehicles, as well as equipment for generating and transmitting electrical power.

Source: U.S. Census Bureau, 2011

Machinery Production by Group in Ohio



Source: U.S. Census Bureau, 2011

Employment

Employment by Group

- More than 66,400 people were employed in machinery manufacturing in Ohio during 2010, according to the U.S. Bureau of Labor Statistics Quarterly Census of Employment and Wages (U.S. BLS-QCEW).

- Just over three-quarters worked in the four groups producing general industry machinery, with the vast majority of these working either in metalworking – 28.6 percent – or other general purpose machinery – 30.3 percent. These are the same groups that produced three-quarters of the industry output that year (compare with page 1).

- Nearly one-quarter made machinery usually focused on specific industries: agriculture, construction, mining, other manufacturing industries, and various commercial and service enterprises – again, nearly proportional with industry output that year (see page 1 as well).

Employment Trends

- Machinery industry employment fell from 101,000 in 2001 to 66,500 in 2010. Although more jobs were lost in the four groups producing general machinery than in the three groups focused on specific industries – 26,000 vs. 8,500, the proportional losses were similar at 34 percent.

- The largest number of jobs losses occurred in the metalworking group: over 12,300, or 39.3 percent. The fewest occurred in engines-turbines-power transmission: 1,200, or 23.8 percent.

- The most recent data from the Ohio Dept. of Job and Family Service's Labor Market Information (ODJFS-LMI) division show machinery industry employment rising from 68,400 in December, 2010, to 72,600 in December, 2011 – about 6.1 percent.

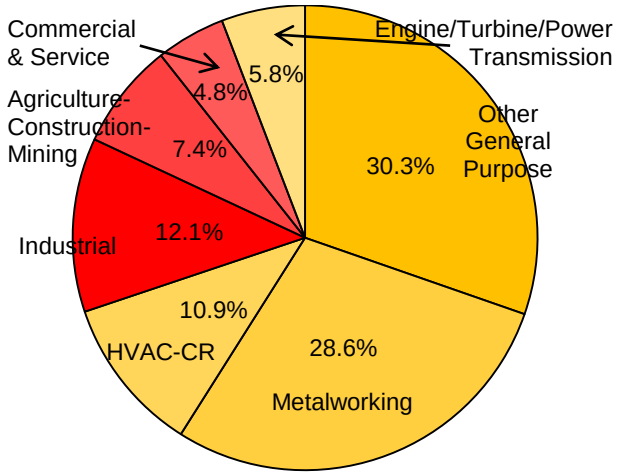
Projections

- Although there are ups and downs in machinery industry (333) employment, ODJFS-LMI projects a downward trend, with total jobs declining by 12,000, or 14.9 percent, from 80,800 in 2008 to 68,800 in 2018.

- ODJFS-LMI predicts the largest losses will occur in other general machinery (3339): 2,900, or 11.7 percent. However, the steepest percentage loss is forecast to happen in heating-ventilation-air-conditioning and commercial refrigeration (3334): 30.1 percent, from 8,300 to 5,800.

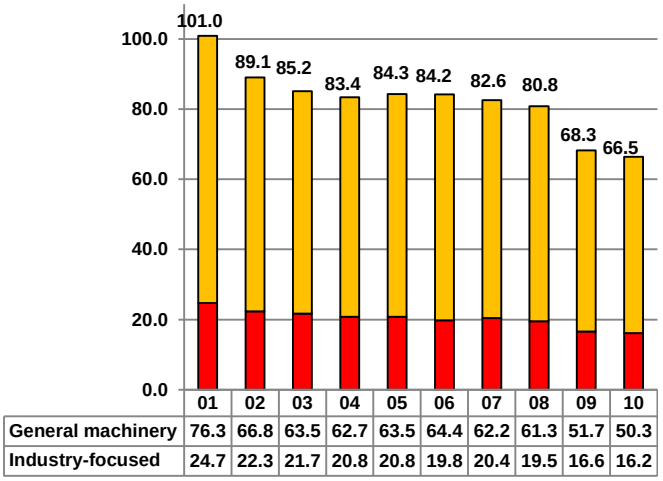
- ODJFS-LMI does not project employment for industry groups of less than 5,000; hence the combination of commercial and service machinery with engines-turbines-power transmission (3333 & 3336). The collective losses of the two are expected to be about 1,700, or 20.5 percent.

Employment by Group



Source: U.S. BLS-QCEW, 2012

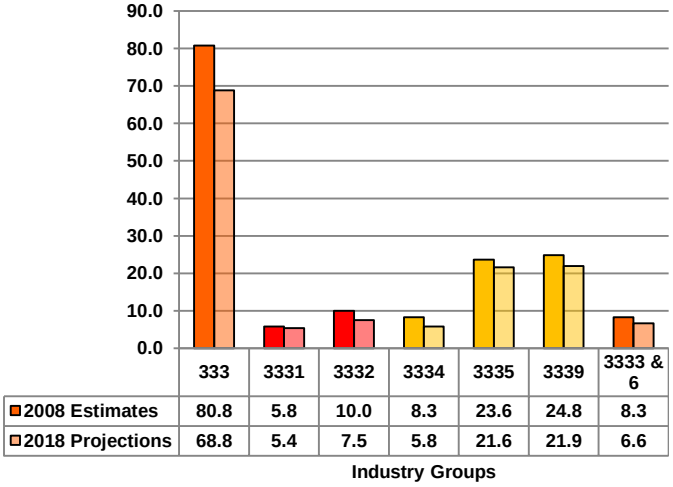
Employment Trends (in thousands)



	01	02	03	04	05	06	07	08	09	10
General machinery	76.3	66.8	63.5	62.7	63.5	64.4	62.2	61.3	51.7	50.3
Industry-focused	24.7	22.3	21.7	20.8	20.8	19.8	20.4	19.5	16.6	16.2

Source: U.S. BLS-QCEW, 2012.

Employment Projections to 2018



	333	3331	3332	3334	3335	3339	3333 & 6
2008 Estimates	80.8	5.8	10.0	8.3	23.6	24.8	8.3
2018 Projections	68.8	5.4	7.5	5.8	21.6	21.9	6.6

Industry Groups

Source: ODJFS-LMID, 2010

Companies and Investments

Companies

- Nine companies from Fortune's U.S.- and Global-500 lists directly or indirectly employ at least 500 people in Ohio's machinery industry: Berkshire-Hathaway, Daimler, Emerson Electric, General Motors-Isuzu[1], Illinois Tool Works, Lockheed Martin, Parker-Hannifin and Xerox. Only Parker-Hannifin is headquartered here. (11 more Fortune companies employ less than 500.) 15 non-Fortune-500 companies also directly or indirectly employ at least 500: Atlas Industries, ATS, the Beumer Group, Connell, Crown Equipment, Gorman-Rupp, Henny Penny, Ingersoll-Rand, Intelligrated, Lincoln Electric, Milacron, MTD, Nordson, Pentair and Rolls-Royce.

Capital Expenditures

- Annual investment in Ohio's machinery industry (NAICS 333) ranged from $269 to $549 million during the 2001-2010 decade; this was about 4.9 to 6.5 percent of the national total.

- Ohio's portion of total national capital expenditures, which averaged 5.7 percent from 2001 through 2010, is slightly less than the corresponding portion of value added: 6.0 percent.

Major Projects

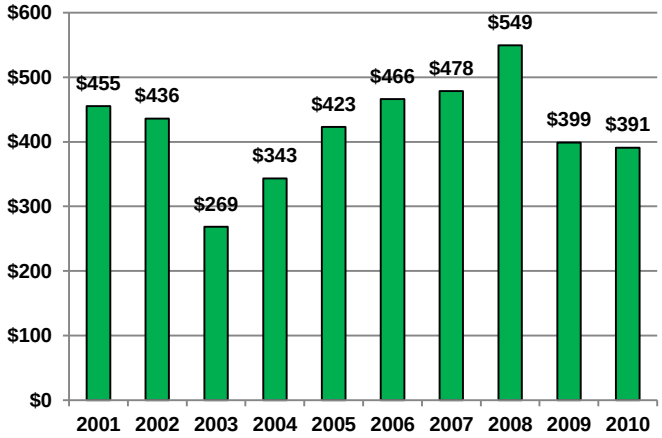
- 219 companies made 255 announcements of major investments[2] for machinery production in Ohio from 2003 through 2011. The companies intended to invest nearly $1.33 billion and create more than 8,500 new jobs.

- General Motors and Isuzu announced the largest investments in the time period with a total of $130.5 million for their DMAX plant, followed by Honeywell – $80.0 million, Gorman-Rupp – $52.0 million, Automated Packaging Systems – $47.4 million, Rolls-Royce Energy Systems – $43.3 million, and Ariel – $40.0 million.

- Intelligrated planned to hire the largest numbers – 403, followed by Ariel – 350, Emerson – 290, Crown Equipment – 208, and Algae Venture Systems – 200. 14 more companies planned to add between 100 and 200 jobs each.

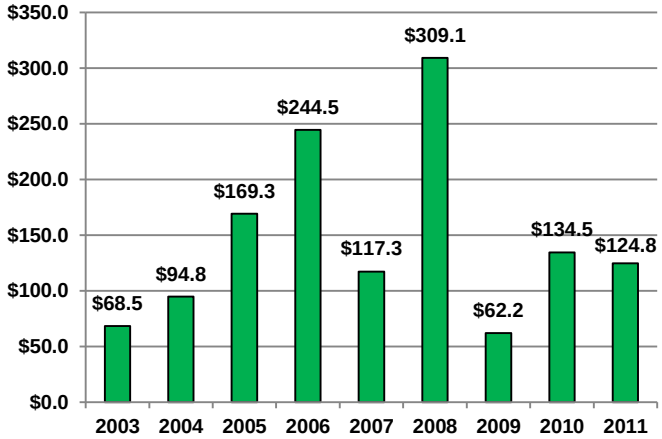
- 2008 saw the largest number of project announcements – 46 – and the greatest amount of intended investment – $309.1 million, but the highest number of anticipated new jobs – over 1,500 – was recorded in 2006. Between 1,000 and 1,300 new jobs also were anticipated in 2008, 2010 and 2011.

Capital Expenditures (in millions)



Source: U.S. Census Bureau, 2002-2011

Project Announcements (in millions)



Source: Ohio Dept. of Development, 2004-2012

Top Five Announced Investments, 2011

Company	Dollars (millions)	Anticipated Jobs
Dayton Progress	$28.0	76
Intelligrated	$15.0	200
Seepex	$8.7	38
Rolls-Royce Energy Systems	$8.0	n.a.
Venture Products	$7.0	33

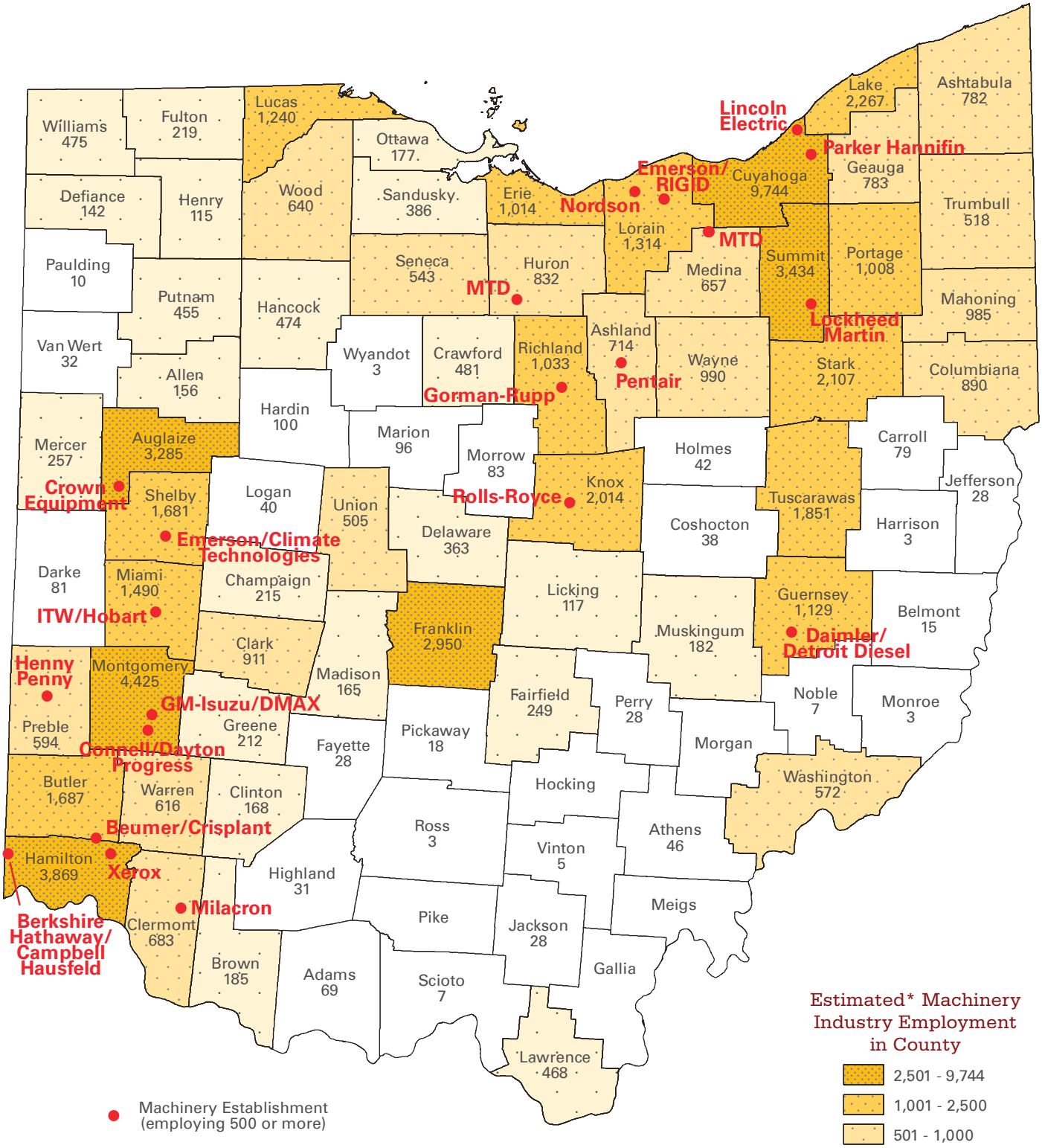
n.a. – not available
Source: Ohio Dept. of Development, 2012

Notes: 1 – The two are joint venture partners in DMAX, a diesel engine plant. (All diesel engines are classified as machinery regardless of their purpose.) 2 - A major investment involves at least $1 million, 50 new jobs, or an addition of 20,000 square feet. Such projects often are phased-in over several years, and are not comparable with annual capital expenditures.

Machinery Industry Employment by County

Statewide 67,043

Ohio



Sources: Employment from 2009 County Business Patterns, U.S. Census Bureau; establishments from Hoover's Online and 2012 Harris Ohio Industrial Directory, Harris InfoSource.

Prepared by: Policy Research and Strategic Planning, Ohio Department of Development (February 2012)

Census figures differ from Bureau of Labor Statistics figures due to different methodologies.

*County employment figures are estimates and do not sum to the statewide toal

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