

The Industry

New studies on the fastener industry have not been published since 2010. Therefore, our best available data keeps U.S. fastener projection in the \$11 – 12 B range and U.S. consumption at \$12 – 13 B. Imports were roughly \$4 B and exports increased significantly to over \$3 B, largely due to the weak dollar versus the euro. Freedonia's projection that world consumption would exceed \$80 B by 2014 has gone unchanged, but that growth will be largely in emerging economies. Plant utilization has been projected to be 73%, up nearly 10% from 2010, and would be higher if there was trained labor available to make that happen. The fastener industry in N. America was almost universally profitable running as close to flat out as resources allowed. With a few very notable exceptions, not a lot of new capacity was added. Inventory turns were 4.4 continuing to tie up a lot of cash in the industry. Raw material prices stabilized in the second half of the year at moderate prices, well below the highs seen in March, as did the price of heavy melting and busheling scrap (\$402 and \$486 per ton in late December 2011). We are told that the "wild cards" in the steel price and availability for 2012 are if there is any unexpected high buying of U.S. scrap by China or Turkey and the ceiling on wire processing capacity which will exist in the immediate future.

Probably the most repeated concern which really got attention in 2011 was the impact of the "Boomers" retiring and the lack of trained, or even interested, new labor to replace them, even with the sustained high unemployment rate. The term "skills gap," and the uncertainty as to what to do about it, became a focus throughout the manufacturing industry. The IFI did succeed in addressing this with the Aerospace Division opening an aerospace fastener manufacturing training program at El Camino College in California and with IFI hosting week long fastener specialist training classes with the Fastener Training Institute in Cleveland and Detroit. Both programs will continue in 2012 and an LA IFI/FTI program will be added. The seriousness of this issue is seen in the estimated 600,000 unfilled manufacturing jobs in the U.S. alone. It's not just "shop training" that's missing, it's the basic attitude and aptitude to enter manufacturing and the fact that in recent OECD studies American 15 year olds ranked 25th of 34 in math and 17th of 34 in science for students from developed countries. We aren't building a skilled manufacturing workforce. Some companies are hitting this head on, as it was recently reported that The Boeing Company spends an average of \$80 M per year on basic introductory and advancement training for their employees. There is a very compelling correlation between dollars spent on training and long term company success. The

IFI Board of Directors made the introduction of students to manufacturing as a good career choice and basic shop floor skills development a key focus for the Institute in 2012.

Fastener industry sales projections for 2012 have been forecasted to be:

YEAR	2012
U.S. Total	\$13.200 M
OEM Total	10.200 M
Motor Vehicles	3.350 M
Electrical/Electronic	1.050 M
Industrial Machinery	1.730 M
Fabricated Metal Products	1.310 M
Aerospace	1.900 M
Other	0.860 M
Construction/MRO/Other	3.000 M

Aerospace

As noted, U.S. aerospace sales were \$218 B in 2011 up 35% (AIA) and aerospace fastener sales probably reflected that trend plus some possible buffer inventory build by the OEMs who are trying to be careful about production interruptions due to supply chain issues. Raw material lead times still existed, but were not as bad as in previous years. Of those sales, \$49.68 B was for civilian aircraft; \$66.51 B for military aircraft; \$25.57 for missiles; \$46.36 B for space and \$29.96 B for MRO and other. Deliveries in 2011 total \$184,185 M; new orders \$204,809 M leaving a backlog of \$462,727 M, meaning a requirement for lots of aerospace fasteners for several years to come, pending unexpected market interruptions. Interestingly, aerospace industry profitability in 2011 averaged only 7.6% versus 9.7% for all U.S. manufacturing. CY-2012 aerospace sales are expected to decline to \$217.65 B with a \$1.4 B decline in U.S. military sales which at year end was offset by a several year \$29.4 B arms sale to Saudi Arabia composed of 84 new F-15s and a further rehab of 70 F-15s already in use. The decline in U.S. military sales had been expected to

eliminate over one million aerospace industry jobs, but now we'll have to see how export sales balance that out.

Major news stories in the aerospace industry in 2011 were the last space shuttle flight; the NLRB ruling trying to stop Boeing from opening their new 787 assembly plant in South Carolina (later resolved) and that Airbus outsold and out delivered Boeing in aircraft orders for the year. Boeing sold 778 net aircraft and delivered 426 while Airbus sold 1,378 and delivered 477. Airbus's new A-320, which burns 15% less fuel gets the credit, and what moves Boeing makes to counter that with the 737 is a topic of serious speculation. Boeing's announced intention is to re-engine the 737 for which they expect 1,500 new orders in 2012. Embraer delivered 204 aircraft in 2011 versus the 220 projected and down from the 246 delivered in 2010. Their current backlog is 249 jets.

Getting platform specific with respect to Boeing commercial aircraft, in 2011 the ending backlogs for both domestic and foreign carriers were as follows, with a total backlog of 3,520 aircraft valued at \$282.881 M:

<u>Aircraft</u>	<u>Total</u>	<u>Domestic</u>	<u>Foreign</u>
B-737	2215	755	1460
B-747	111	11	100
B-767	49	19	30
B-777	325	59	266
B-787	820	157	663

Of particular interest, and telling where air travel is growing and probably where aircraft maintenance will occur, is that 71.6% of the number of aircraft sold and 76.7% of their value rests with foreign buyers. As noted last year, studies by both Boeing and Airbus project 25,000 – 30,000 new aircraft will be needed over the next 20 years.

Automotive

CY-2011 was a year of unexpectedly strong growth in the automotive sector, with the exception of the Japanese OEMs where the tsunami had a devastating effect. GM's sales grew 13%, Ford's 11% and Chrysler's 26% during the year. The Detroit-3's market share also increased in 2011 from 45.2% to 47.1% of the U.S. market. Low interest rates and increased consumer confidence – or weariness from being super cautious – helped the situation. Interestingly, GM's sales in China also

rose 8.3% in 2011 to 2.5 M vehicles and Ford's Chinese sales grew 7% to 519,390 vehicles. China has since slapped tariffs on imported cars an action to be challenged in the WTO. For 2012, most auto economists are projecting sales in the 13.7 – 13.8 M units range with GM expected to barely beat out Toyota and VW (with GM's global total auto sales of about 9 M units) for the top sales spot, though most expect VW to take the top spot sometime in the next two years. VW's 2011 sales grew 14% to 8.16 M units worldwide and grew 21.5% in N. America. VW's extensive line of vehicle types puts them in almost every market – VW, Audi, Porsche, Lamborghini, Bugatti, Bentley, Scania, SEAT, Skoda and MAN trucks.

Wards details of manufacturers' cars sales show the following:

	Calendar Year-to-Date		
	January - December		Volume
	2011	2010	% Change
Chrysler	1,361,587	1,079,734	26.1
Ford	2,110,832	1,905,310	10.8
GM	2,503,797	2,211,262	13.2
International (Navistar)*	877	1,008	-13.0
North America Total	5,977,093	5,197,314	15.0
Honda	1,147,285	1,230,480	-6.8
Hyundai	645,691	538,228	20.0
Isuzu	1,750	1,690	3.6
Kia	485,492	356,268	36.3
Mazda	250,426	229,566	9.1
Mitsubishi	79,020	55,683	41.9
Nissan	1,042,534	908,570	14.7
Subaru	266,989	263,820	1.2
Suzuki	26,619	23,994	10.9
Toyota	1,644,660	1,763,595	-6.7
Asia/Pacific Total	5,590,466	5,371,894	4.1
Audi	117,561	101,629	15.7
BMW	305,418	265,757	14.9
Daimler	267,169	231,176	15.6
Jaguar Land Rover	50,375	45,204	11.4
Porsche	29,023	25,320	14.6
Saab	5,610	5,446	3.0
Volkswagen	324,401	256,830	26.3
Volvo	67,240	53,948	24.6
Europe Total	1,166,797	985,310	18.4
Total Light Vehicles	12,734,356	11,554,518	10.2

When looking at what types of vehicles propelled the growth in 2011, domestic car sales increased 11.8% versus import cars up only 0.3% and domestic light trucks sales grew 12.8% versus import light truck up 9.3%. Contrary to what many had projected, truck sales did not disappear, but increased by 12.3% to 6,644,935 units versus an 8.1% increase for cars to 6,089,421 units.

The best selling models in 2011 were the Camry followed by the Altima, Fusion, Corolla and Accord for cars, and the F-series, then Silverado, Escape and RAM for light trucks. The overall winner by a significant margin was the F-Series with 584,917 units sold.

Some further automotive tidbits of interest helping to foretell what's in store for 2012, are that Saab is gone and the European car market, which fell 1% in 2011, is projected to fall a further 3% in 2012. Auto makers mostly dependent on W. European sales – think PSA Peugeot Citroën who are not going to have a good year. The Germans, with about 50% of their sales in the U.S. and the emerging economies, should be fine.

Fiat now has a 58.5% stake in Chrysler with the UAW Veba owning the other 41.5%. That could get interesting depending on their sales success. Fiats share prices fell from a high of 8 Euros in January 2011 to just under 3 Euros as the year ended. American Honda did not have a good year, as its sales dropped 7%, with a couple of months of production shut down due to the tsunami. All this while the total U.S. market had actually grown 10%. Their pickup truck sales in U.S. were down 40% to just over 10,000 units sold. Honda's sales in Europe were also worse, down 19%.

The 2011 winner was probably Hyundai/Kia where its U.S. plants are approaching 100% of capacity and those plants produced 2/3 of all their U.S. sales. The Alabama plant turned out 338,000 units with U.S. sales up 20% in 2011 versus a 10% increase for them worldwide turning out 6.6 M units. CY-2012 sales are projected to be 7.0 M units. Their design, warranty and styling allowed them to average less than \$650/car in incentives versus about \$2,000/car for Toyota and \$3,200/car for Ford and GM. Hyundai/Kia's U.S. market share is now 5.1% and new capacity will come on line in either the U.S. or Mexico. Hyundai reported a record \$7.2 B profit – up 35% in 2011.

Industrial Products

Many of the industries in this segment did very well in 2011 with the exception of products going into residential construction and commercial construction, though as the year ended commercial was improving in some geographical areas. CY-2011 for industrial products could perhaps best be thought of as a search for the new normal level of demand in each segment as it will take some time to return to the 2006-08 levels. The exceptions might be sales of off road construction and agricultural equipment, which really grew. In many of the other segments though, the projected slow economic growth going into 2012 equals slow growth for most industrial markets.

Residential housing is going nowhere yet as there is an eight months supply of existing housing for sale. New building in 2011 was 593,000 units, well below the old norm of 1.3 M – 1.6 M units. Expectations for 2012 are about 730,000 units. This steers directly into appliance where the market is outfitting new homes, replacements and home improvement. Unit sales of all types of appliances was 34 M units in 2011 down from the 2006 peak of 50 M units. For 2012, the industry is projecting a 3% growth in sales based on the housing market, current backlog, low interest rates but high unemployment. Credit turndowns for new homes was 33% of those applying in 2011 versus 8% in 2010. That's how tight credit is!

For agricultural equipment sales are driven by food commodity prices (which ending 2011 were almost double the middle of 2010) weather, population growth and poor farm output in some parts of the world. CY-2012 agricultural equipment sales growth is projected to be in the 3-6% range. John Deere's sales were up 14% in N. America and 31% in the rest of the world, to \$3.2 B.

Power generation equipment sales mirrors electricity use which was +2.0% in 2011 with 2.5% growth projected for 2012. Slow economic growth is again the culprit. A majority of electrical power generation capacity will again be coal and gas powered with the alternatives continuing to grow largely as incentivized by government policy.

On-highway trucks grew 4.4% in 2011 and is projected to grow a further 4.0% in 2012. Reduced allowable driver hours will equal more trucks. By types of trucks, Class 8 (freight hauling) production was 260,000 units in 2011/projecting 270–290,000 in 2012; medium sized delivery trucks were 147,000 units in 2011/projecting 170-190,000 in 2012 and trailers were 190,000 units in 2011/projecting 210-250,000 in 2012.

For rail cars, orders were high in 2011 at 57,000 units and there is a backlog in demand for 2012. Rolling stock replacement is in the cards going forward.

Machine tools sales were surprisingly strong in 2011 with a 47% increase in sales over 2010 but are expected to soften to only 7% growth in 2012. These are metal cutting and metal forming machine tools.

Construction equipment is differentiated as light and heavy. Light grew 25-30% in 2011 in the U.S. and heavy grew about the same. CY-2012 is expected to soften significantly due to the loss of tax incentives and is projected to be in about the 6% range. Caterpillar reported a sales increase of 35% worldwide to \$17.24 B generating a net income \$1.55 B. This included both their construction and mining equipment segments. Most of the growth was in Latin America, Asia and the Middle East.

New Commercial construction – manufacturing facilities, warehouses, hotels and motels, business offices, schools, government buildings and apartments – remained very slow in 2011 except for in a few geographical locations. The American Institute for Steel Construction says that GDP must grow 3% or greater or construction will remain flat. It was down 16% in 2010, and fell only another 2% in 2011, but is still way below the old norm. New project starts in 2011 were up 11% but the starts are very slow to develop. For reference, the total number of square feet under construction was only about 1/3 of what was being built in 2005-07. A little good news is that for 2012 a 3.7% increase is projected. Bridges, highways, airports, etc. all have projects on the drawing boards or underway but at a slow pace and the lack of funds to continue stimulus spending will not help the situation, although \$1.58 B in DOT funds are available for bridge and road repair. Highway, bridge and road construction in 2011 was expected to fall 4.4% to about \$78.5 B.

Imports/Exports

IFI's 2011 Import/Export Report will show a continuing shift in import totals and their country of origin.

- Fastener Imports totaled \$4,353.786 in value or 2,924,744,764 pounds in weight.
- Fastener Exports totaled \$2,938.510 in value or 1,505,273,662 pounds in weight.

- The top export countries of origin were:

Country	Value (\$M)	% of Total	% Change vs. 2010	\$/Lb.
World	4,353.786	100	21.1	1.49
Taiwan	1,373.423	32	19.4	1.31
China	1,019.457	23	27.9	1.03
Japan	560.275	13	5.4	3.81
Canada	294.007	7	11.2	1.74
Germany	232.153	5	44.0	1.16
S. Korea	142.151	3	28.3	1.87
Italy	101.690	2	27.7	1.99
India	95.857	2	41.3	1.33
UK	78.831	2	3.5	10.59
Mexico	76.403	2	34.6	3.35