Eggs & Data Breakfast
McCormick Place | Room W-471
Thursday, Sept. 13, 2018
7:30 – 8:30 am

Welcome!
Phil Kurtz
Vice-Chairman
Wetmore Tool and Engineering Company
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
<th>Title</th>
<th>Company/Institute</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am</td>
<td>Welcome</td>
<td>Phil Kurtz, President</td>
<td>Wetmore Tool &amp; Engineering</td>
<td></td>
</tr>
<tr>
<td>7:35 am</td>
<td>Impact of Tax Reform</td>
<td>Tracy Lustyan, Managing Director</td>
<td>Alliantgroup</td>
<td></td>
</tr>
<tr>
<td>7:55 am</td>
<td>Cutting Tool Market Forecast</td>
<td>Tom Runiewicz, Senior Economist</td>
<td>IHS</td>
<td></td>
</tr>
<tr>
<td>8:25 am</td>
<td>The Value of Participation</td>
<td>Steve Stokey, Vice President</td>
<td>Allied Mach. &amp; Eng. Corp.</td>
<td></td>
</tr>
</tbody>
</table>
Tracy Lustyan
Managing Director
Alliantgroup
How U.S. Manufacturers are winning against foreign competition

Presenters:
Tracy Lustyan | Gina Maurino | Andrea Eller
Multi-Tools
Fabrication Company

Annual Revenue: $21 MM
• Previous Credit Result: $30,000
• alliantgroup Credit Result: $286,500
  853% Credit Increase

• Designing and fabricating high performance valves for the end customer utilizing specific application requirements, innovative engineering techniques, and quality manufacturing capabilities

• Fabricating products for pipe valves with a port diameter equal to the pipe schedule, which equates to an increased flow rate compared to traditional port diameters
Multi-Tools Fabrication
Company in Their Own Words:

“Our CPA connected us with alliantgroup to assist us in claiming this incentive, and [alliantgroup] did a fantastic job of educating us on the complexities of the credit and explained how our wages and day-to-day activities apply towards “research and development.” Their hard work resulted in a substantially larger amount than we were previously claiming, and they made it a very pleasant experience.

We highly recommend alliantgroup to anyone interested in claiming the R&D tax credit, as we are confident that they work in a very diligent manner in order to get the maximum benefit possible for all of their clients.”
Precision CNC Machining and Custom Manufacturer

Annual Revenue: $21 MM

• Previous Credit Result: $72,000
• alliantgroup Credit Result: $502,000

597% Credit Increase

• Designing custom complex metal products and components to meet a variety of customer applications
• Developing machining, assembly and finishing processes to manufacture part designs based on customer specifications and intended application
• Evaluating the customer’s project application, material requirements and level of engineering required to develop an appropriate solution
“Through the years, we’ve utilized other providers to claim the R&D Tax Credit. After engaging with alliantgroup recently, it is evident that they are the foremost experts in their field. There is no doubt that they do their due diligence in making sure to identify every credit possible; they dove into great detail, reviewed the data that was required, and interviewed our engineers to get a better understanding of what went on inside our company’s operations.

As a result of alliantgroup’s study, we received four times the amount of credits than we were previously claiming, and we felt four times more comfortable with their study process.”
alliantgroup Managing Director

Tracy Lustyan is the Managing Director for the Great Lakes Region and is based in alliantgroup’s Chicago office. (primarily Illinois, Missouri, Minnesota, Iowa and Wisconsin).

She has a vast knowledge of government-sponsored programs, with concentrated expertise in the application of the R&D Tax Credit for VAR, Systems Integration, Manufacturing, Software & Technology, A&E companies.

Since 2009, Tracy has partnered with 234 CPA firms and has helped 987 companies from a broad spectrum of industries claim more than $380 million in government-sponsored tax credits and incentives.
16,600+ firms annually claim the credit, receiving over $11.2 billion in federal tax credits
- $9.6 billion for companies with more than $250 million in gross receipts
- $1.6 billion for companies with less than $250 million in gross receipts

- Manufacturing remains at the top of the list with 37.5% of the R&D Tax Credit claims.
- United States ranks #27 in the world for the R&D Credit generosities (credit: ITIF.org)
- State R&D credits – 40 and counting
FOUND MORE THAN $7 BILLION IN GOVERNMENT INCENTIVES

PARTNERSHIPS WITH MORE THAN 4,000 CPA FIRMS

MORE THAN 33,000 STUDIES COMPLETED

MORE THAN 116,000 JOBS CREATED

MORE THAN 14,000 BUSINESSES SERVED
Proud to Work With

NTMA

FMA

AMT

MCAA

PMA
• We’ve helped **NTMA Members** Claim More Than **$38.8 Million** in Credits and Incentives

• We’ve helped **A3 Members** Claim More Than **$18 Million** in Credits and Incentives

• We’ve helped **PMA Members** Claim More Than **$18 Million** in Credits and Incentives

• We’ve helped **Manufacturers** Claim More Than **$1.5 BILLION** in Credits and Incentives
Qualifying Industries – Manufacturing

- Tool & Die
- Precision Machining
- Metal Stamping
- Metal Fabrication
- Systems Integration
- Custom Equipment/Machine Fabrication
- Electronics / PCB Assembly
- Plastic Part Production
- Foundry
- Extrusion
- Roll Forming
- Die Casting
Traditional vs Tax (DECEMBER 2003)

TRADITIONAL DEFINITION = New to the World

TAX DEFINITION = New to the Taxpayer
New regulations passed to enable job creation

Passed with intent of keeping and creating technical jobs in U.S.

Key industries Congress was focused on were:

- Manufacturing
- Engineering
- Software and Technology
- Architecture
## New or Improved Business Component

### Business Component Purpose Matrix

<table>
<thead>
<tr>
<th>The Project’s Business Component</th>
<th>The Purposes of the R&amp;D Activities related to the...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Function</td>
</tr>
<tr>
<td>Product</td>
<td>✓</td>
</tr>
<tr>
<td>Process</td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td></td>
</tr>
<tr>
<td>Technique</td>
<td></td>
</tr>
<tr>
<td>Formula</td>
<td></td>
</tr>
<tr>
<td>Invention</td>
<td></td>
</tr>
</tbody>
</table>
Qualified Research Expenditures (QREs)

**WAGES**
- Form W-2, Partnership Earnings subject to SE Tax, Schedule C
- Excludes 401(k) & benefits

**SUPPLIES**
- Cost to cloud hosting and/or leasing computer services

**65% OF CONTRACT RESEARCH**
- Fees paid to outside consultants/subcontractors/engineers/software developers
R&D Expanded Regulations
New Expanded R&D Regs 2014 & 2015

- Treasury allowing ASC on amended returns

- §174 allowing expanded supply costs as qualified research expenses. Industries affected; manufacturing, plastic injection mold, equipment engineering & fabrication, fabricators, architectural steel, HVAC fabricators

- Internal-use software exception....web development for the purposes of marketing to 3rd parties. Industries affected; insurance, medical, financial, mortgage, retailers, distributors, real estate. Essentially any business developing a market presence on the internet.
What’s New With the R&D Tax Credit

• **The PATH Act**
  - R&D CREDIT IS MADE PERMANENT
  - Starting with taxable years beginning on 1/1/16, “eligible small businesses” (ESB) may use the credits to reduce tax below TMT.
  - ESB < 50 M (2014 – 2018) / Average

• **Tax Cuts and Jobs Act**
  - More opportunity to use credits based on changes to the tax code.

*If you haven’t explored the credit recently, now is a great time to revisit!*
Benefit of the R&D Tax Credit

• A TAX CREDIT is a dollar-for-dollar reduction in taxes paid or taxes payable
• Credit available in all open tax years (2014-2018)
• Expanded IUS regulations as of 2015
• Quick turnaround

Mechanics

• For every $1,000,000 of qualified research expenditures (QREs):
  • Up to $65,000 in net federal R&D tax credits
  • Additional state credits may be available

• If credits cannot be used in the year they are generated:
  • Federal: 1-year carry-back; 20-year carry-forward
Tier 1 Automotive Supplier

R&D Tax Credit: Federal and State
Annual Revenue: $35.5 MM

Credit: $660,000

• This company is involved in many projects to design and develop manufacturing processes to produce quality, high-tolerance, tempered curved and flat glass.

• Each project was undertaken to meet specific and unique project requirements and presented different engineering and design challenges.
Why alliantgroup?
Dean Zerbe
Former Senior Counsel to the U.S.
Senate Finance Committee; alliantgroup National Managing Director

Dawn Levy
Former Counsel to the U.S. Senate
Finance Committee; alliantgroup Director

Mark W. Everson
Former IRS Commissioner; alliantgroup Vice Chairman

Steven T. Miller
Former IRS Acting Commissioner; alliantgroup National Director of Tax

Tom Ridge
Former U.S. Secretary of Homeland
Security; alliantgroup Chairman of Cybersecurity and Technology

Mike Johanns
Former U.S. Secretary of Agriculture; alliantgroup Chairman of Agriculture

Bob Riley
Former Alabama Governor and U.S.
Congressman; alliantgroup Director

Kit Bond
Former Missouri Governor and U.S.
Senator; alliantgroup Senior Advisor

Jim Ramstad
Former U.S. Congressman and Chairman
of the IRS Oversight Committee; alliantgroup Senior Advisor

Rick Lazio
Former U.S. Congressman; alliantgroup
Senior Vice President

Harold Ford, Jr.
Former U.S. Congressman; alliantgroup
Strategic Advisory Board Member

Kathy Petronchak
Former IRS Commissioner of Small
Business/Self-Employed Division; alliantgroup Director of IRS Practice & Procedure

Frank Tirelli
Former Chairman and CEO of Deloitte Italy; Vice Chairman of Deloitte US; alliantgroup Vice Chairman of Professional Services
Our Process

1. **Value Assessment**
   - Refined credit estimate
   - Tailored study plan and schedule

2. **Qualitative and Quantitative Analysis**
   - Identify qualified research projects
   - Determine qualified research expenses
   - Final credit numbers for filing

3. **Reporting and Final Deliverable**
   - Document cataloging
   - Summary drafting
   - Final deliverable
Thank you!

Tracy Lustyan | 312.788.5105 | tracy.lustyan@alliantgroup.com
Tom Runiewicz
Senior Economist
IHS
The Outlook for US Cutting Tool End-Markets

Eggs & Data Breakfast
Thursday September 13, 2018, McCormick Place, Chicago
Fiscal stimulus is temporarily boosting US economic growth; trade wars are a risk

- Buoyed by federal tax cuts and spending increases, real GDP is projected to expand 2.9% in 2018 and 2.7% in 2019, pushing the unemployment rate down to 3.4% and fueling inflation.

- In response to monetary tightening and capacity constraints, economic growth will subside to 1.9% in 2020 and 1.6% in 2021.

- Tariffs now in place will have a slight impact on economic growth, but actions under review—including 25% tariffs on auto imports and 10–25% tariffs on $200 billion of Chinese goods—could be damaging.

- Consumer spending is supported by improving household finances and gains in employment, real incomes, and home values.

- Business fixed investment will benefit from expanding global markets, an easing of regulatory policies, and a more competitive tax environment, but trade and supply chain risk is growing.

- The Federal Reserve is expected to raise the federal funds rate to a high near 3.50% in 2020, overshooting its long-run equilibrium of 2.75%.
Look for an acceleration in US manufacturing, but risks are surfacing, especially on trade

• The stage is being set for manufacturing output to expand by 2.2% in 2018. Look for growth to pick up to 2.4% in 2019, but then slow to 2.0% during 2020.

• Total manufacturing orders were up 8% year to date through June. Durable goods orders were up 8%. Nondurables up 8%.

• Heavy manufacturing remains strong. New Orders through June: steel +19%, aluminum +15%, fab metals 11%, construction equip +7%, oilfield equip +5%, HVAC equip +6%, power transmission equip +6% and material handling equipment +7%. All grew at a steady pace in early 2018, but June slowed significantly.

• Transportation equipment orders through June was +9%, motor vehicle orders +3%, and nondefense aircraft +15%, but defense aerospace was -2%.
More news in US manufacturing markets...

• The Institute of Supply Management’s purchasing managers’ index (PMI) was 58.1 for July and the new orders index was 60.2. The Markit Manufacturing PMI was 55.3 for July and new orders index as 55.1. The July numbers have declined from highs experienced earlier in 2018. Manufacturing expansion.

• Look for the US dollar, against the US major trading partner, is expected to average 2% lower during 2018. However, as economic conditions continue to improve and interest rates to climb in 2019, the dollar may see a 4% increase.

• US exports should grow 6% in 2018 and 2019. Imports are likely to see 5% growth in 2018 and an 8% increase in 2019.

• The energy sector remains on a fast pace. Oil and gas drilling is on track to increase over 13% this year and another 19% in 2019. The oil price forecast has been revised upward significantly with energy investment increasing rapidly.
IHS Markit PMIs signal solid economic growth

Markit PMI indexes

Above 50 indicates expansion

Source: IHS Markit

© 2018 IHS Markit
Industrial production is accelerating in response to strengthening global demand and rising energy output.
US crude oil and natural gas prices will retreat in 2019
<table>
<thead>
<tr>
<th>Key indicators</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent change</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Industrial production</td>
<td>1.6</td>
<td>3.7</td>
<td>2.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Mining</td>
<td>6.4</td>
<td>10.8</td>
<td>7.7</td>
<td>4.9</td>
</tr>
<tr>
<td>Oil &amp; gas extraction</td>
<td>3.9</td>
<td>12.7</td>
<td>8.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Drilling Activities</td>
<td>31.3</td>
<td>13.2</td>
<td>18.9</td>
<td>3.5</td>
</tr>
<tr>
<td>Utilities</td>
<td>-1.3</td>
<td>4.6</td>
<td>0.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durable goods manufacturing</td>
<td>1.5</td>
<td>3.2</td>
<td>3.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Nondurable goods manufacturing</td>
<td>1.4</td>
<td>1.5</td>
<td>1.6</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Source: IHS Markit
Core capital goods orders and shipments are rising

Nondefense capital goods excluding aircraft

3-mon moving avg., bil. USD

Source: IHS Markit

© 2018 IHS Markit
The expansion in capital spending is broadly based

Real business fixed investment

Year-over-year % change


Source: IHS Markit

© 2018 IHS Markit
Real business equipment investment growth by type

Real business equipment investment

Source: IHS Markit

© 2018 IHS Markit
### Top-10 US manufacturing production growth leaders for 2018

<table>
<thead>
<tr>
<th>General industry leaders</th>
<th>Detailed industry leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nonmetallic mineral prods (6.1%)</td>
<td>1. Drilling equipment (25.9%)</td>
</tr>
<tr>
<td>2. Computers &amp; electronic prods (6.0%)</td>
<td>2. Computers &amp; equipment (13.7%)</td>
</tr>
<tr>
<td>3. Fabricated metals (4.6%)</td>
<td>3. Heavy duty trucks (12.1%)</td>
</tr>
<tr>
<td>4. Primary metals (4.4%)</td>
<td>4. Semiconductors (9.2%)</td>
</tr>
<tr>
<td>5. Machinery (4.1%)</td>
<td>5. Forging &amp; stamping (7.2%)</td>
</tr>
<tr>
<td>6. Pharmaceuticals (3.5%)</td>
<td>6. Concrete &amp; cement (7.1%)</td>
</tr>
<tr>
<td>7. Processed foods (3.4%)</td>
<td>7. Metal coating &amp; heat treating (6.8%)</td>
</tr>
<tr>
<td>8. Wood prods (3.4%)</td>
<td>8. Iron &amp; steel (6.4%)</td>
</tr>
<tr>
<td>9. Motor vehicles &amp; parts (3.1%)</td>
<td>9. Glass &amp; prods (6.3%)</td>
</tr>
<tr>
<td>10. Other transportation equip (3.0%)</td>
<td>10. Material handling equip (5.3%)</td>
</tr>
</tbody>
</table>
What is impacted by metals 232?

• Steel products covered by 25% tariffs:
  > Carbon and alloy flat products
  > Carbon and alloy long products
  > Stainless flat and long products
  > Pipe and tube
  > Semi-finished slabs, billets, and blooms

• Aluminum products covered by 10% tariffs:
  > Unwrought aluminum
  > Aluminum bars, rods, and profiles
  > Aluminum wire
  > Aluminum plate, sheet, strip, and foil (flat rolled products)
  > Aluminum tubes and pipes and tube and pipe fitting
  > Aluminum castings and forgings
What is not covered by 232?

• Steel fabrications
  > Bent, welded, punched
    – Plate steel *is* covered
      • A large gear plasma cut from that plate *is not* covered
  > Difficult cases
    – Cutting
    – Very simple shaping
    – Are you trying to circumvent?

• Aluminum is the same, except castings, forgings, and pipe fittings
  > If you import a cast aluminum housing for an alternator, it is subject to tariff
  > If you import an alternator that has a cast aluminum housing, it is not subject

• NOTE WELL: Section 301 picks up many of these from China
US steel imports by major country during 2017 and first six months of 2018

### Top 10 US Imports of Steel in 2017

<table>
<thead>
<tr>
<th>Country</th>
<th>Million Dollars</th>
<th>Mkt Share of Total</th>
<th>% Change 6 Months 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Canada</td>
<td>5,568</td>
<td>16%</td>
<td>21.7%</td>
</tr>
<tr>
<td>2 Brazil</td>
<td>3,207</td>
<td>9%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>3 Korea, South</td>
<td>2,966</td>
<td>8%</td>
<td>10.6%</td>
</tr>
<tr>
<td>4 Russia</td>
<td>2,656</td>
<td>7%</td>
<td>30.7%</td>
</tr>
<tr>
<td>5 Mexico</td>
<td>2,644</td>
<td>7%</td>
<td>22.2%</td>
</tr>
<tr>
<td>6 Germany</td>
<td>1,912</td>
<td>5%</td>
<td>13.0%</td>
</tr>
<tr>
<td>7 Japan</td>
<td>1,718</td>
<td>5%</td>
<td>7.2%</td>
</tr>
<tr>
<td>8 China</td>
<td>1,440</td>
<td>4%</td>
<td>10.2%</td>
</tr>
<tr>
<td>9 Taiwan</td>
<td>1,385</td>
<td>4%</td>
<td>-7.6%</td>
</tr>
<tr>
<td>10 Other</td>
<td>12,353</td>
<td>34%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Total</td>
<td>35,850</td>
<td>100%</td>
<td>12.1%</td>
</tr>
</tbody>
</table>
RUSAL sanctions: it will be especially hard for the US to do without Russian production

Global Aluminum Production, 2017

US Aluminum Supply, 2017

- U.S.
- India
- Canada
- Russia
- Rest of World
- China
- US production
- Canada
- UAE
- Argentina
- Russia
- Others

Source: WBMS
The dollar’s real trade-weighted exchange value

![Graph showing the real trade-weighted dollar index from 1980 to 2028. The index is normalized to 2009 = 1.0. The graph compares major trading partners and other important trading partners. The dollar's value has fluctuated significantly over the years, with peaks and troughs indicating periods of strength and weakness in the currency. The graph is sourced from IHS Markit.]
Not as bad as we feared, but still bad
Top-10 US manufacturing production growth leaders for 2019

**General industry leaders**

1. Aerospace (8.1%)
2. Primary metals (7.9%)
3. Basic chemicals (6.6%)
4. Computers & electronic prods (5.9%)
5. Machinery (5.2%)
6. Nonmetallic mineral prods (3.7%)
7. Electrical equipment (3.5%)
8. Pharmaceuticals (3.4%)
9. Plastics & rubber (3.1%)
10. Motor vehicles & parts (2.8%)

**Detailed industry leaders**

1. Iron & steel (11.4%)
2. Drilling equipment (9.7%)
3. Construction equipment (9.3%)
4. Aluminum (9.1%)
5. Basic chemicals (8.4%)
6. Semiconductors (8.3%)
7. Aerospace (8.1%)
8. Resins (6.9%)
9. Computers & electronic prods (6.8%)
10. Measuring & controlling equip (5.5%)
### General industry leaders

1. Aerospace (9.5%)
2. Basic chemicals (5.7%)
3. Computers & electronic prods (3.4%)
4. Pharmaceuticals (3.3%)
5. Plastics & rubber (3.1%)
6. Nonmetallic mineral prods (2.4%)
7. Wood Products (2.3%)
8. Machinery (2.2%)
9. Motor vehicles & parts (2.0%)
10. Electrical equipment (1.9%)

### Detailed industry leaders

1. Aerospace (9.5%)
2. Petrochemicals (8.3%)
3. Resins (7.5%)
4. Semiconductors (5.1%)
5. Drilling equipment (4.9%)
6. Industrial equipment (4.2%)
7. Pharmaceuticals (3.3%)
8. Construction equipment (3.2%)
9. Measuring & controlling equip (3.1%)
10. Lt trucks & SUVs (3.0%)
Fabricated metals

- NAICS 332 includes:
  > Forging and stamping
  > Cutlery, hand tools & hardware
  > Architectural & structural metals
  > Metal tanks & cans
  > Spring and wire products
  > Coating, engraving & heat treating

- Industry shipments were $361.2 billion during 2017, a 8% increase over 2016 after a 2% overall price increase.

- US consumption of fab metals was $390.8 billion in 2017. Again, dependent on production from the rest of world.

- US fab metal imports were $69.0 billion in 2017, up 6% from 2016. This represents 17% of domestic consumption. Year to date through June imports are up 11%.

- With metals representing 40-50% of the cost of production most fab metal producers are uncompetitive on a global basis.

- Look for producers to be financially stressed as they are unable to pass through production costs and import penetration increases.
US fabricated metal imports by major country during 2017 and first six months of 2018

Top 10 US Imports of Fabricated Metals in 2017

<table>
<thead>
<tr>
<th>Country</th>
<th>Million Dollars</th>
<th>Mkt Share of Total</th>
<th>% Change 6 Months 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 China</td>
<td>22,588</td>
<td>33%</td>
<td>12.5%</td>
</tr>
<tr>
<td>2 Mexico</td>
<td>8,535</td>
<td>12%</td>
<td>9.2%</td>
</tr>
<tr>
<td>3 Canada</td>
<td>5,846</td>
<td>8%</td>
<td>9.4%</td>
</tr>
<tr>
<td>4 Taiwan</td>
<td>4,665</td>
<td>7%</td>
<td>13.9%</td>
</tr>
<tr>
<td>5 Germany</td>
<td>4,426</td>
<td>6%</td>
<td>17.8%</td>
</tr>
<tr>
<td>6 Japan</td>
<td>4,259</td>
<td>6%</td>
<td>12.2%</td>
</tr>
<tr>
<td>7 Italy</td>
<td>2,462</td>
<td>4%</td>
<td>5.9%</td>
</tr>
<tr>
<td>8 Korea, South</td>
<td>2,220</td>
<td>3%</td>
<td>-9.2%</td>
</tr>
<tr>
<td>9 India</td>
<td>1,736</td>
<td>3%</td>
<td>28.9%</td>
</tr>
<tr>
<td>10 Other</td>
<td>12,308</td>
<td>18%</td>
<td>9.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>69,045</strong></td>
<td><strong>100%</strong></td>
<td><strong>10.9%</strong></td>
</tr>
</tbody>
</table>
Fabricated metal through June 2018

- Orders rose 9% in 2017 and 11% through June 2018.
- Shipments are up 10% through June.
- Production is on track to be 5% higher this year and less than 2% in 2019 if import penetration accelerates.
Machinery

• NAICS 333 includes:
  > Agricultural, construction & mining machinery
  > Industrial machinery
  > HVAC equipment
  > Metalworking machinery
  > Engine, turbine & power transmission
  > Commercial & service industry machinery

• Industry shipments were $369.8 billion during 2017, a 6% increase over 2016 after a 1% overall price increase.

• US consumption of machinery was $421.7 billion in 2017.

• Exports were $116.7 billion in 2017, up 8% from 2016 and 32% of total shipments. Year to date though June exports are up 9%

• Imports were $169.6 billion in 2017, up 12% from 2016. This represents 40% of domestic consumption. Year to date through June imports are up 14%.

• Machinery is a highly specialized industry and free trade is important to make sure the proper machine is delivered to the right job.
US machinery imports by major country during 2017 and first six months of 2018

<table>
<thead>
<tr>
<th>Country</th>
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<tbody>
<tr>
<td>China</td>
<td>35,191</td>
<td>21%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Japan</td>
<td>23,626</td>
<td>14%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Germany</td>
<td>20,004</td>
<td>12%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Mexico</td>
<td>18,476</td>
<td>11%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Canada</td>
<td>14,832</td>
<td>9%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Italy</td>
<td>8,526</td>
<td>5%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Korea, South</td>
<td>6,290</td>
<td>4%</td>
<td>19.7%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>5,199</td>
<td>3%</td>
<td>27.3%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>3,736</td>
<td>2%</td>
<td>10.1%</td>
</tr>
<tr>
<td>Other</td>
<td>32,748</td>
<td>19%</td>
<td>21.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>168,628</strong></td>
<td><strong>100%</strong></td>
<td><strong>14.2%</strong></td>
</tr>
</tbody>
</table>
US machinery exports by major country during 2017 and first six months of 2018

<table>
<thead>
<tr>
<th>Country</th>
<th>Million Dollars</th>
<th>Mkt Share of Total</th>
<th>% Change 6 Months 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Canada</td>
<td>21,271</td>
<td>18%</td>
<td>12.9%</td>
</tr>
<tr>
<td>2 Mexico</td>
<td>16,955</td>
<td>15%</td>
<td>6.9%</td>
</tr>
<tr>
<td>3 China</td>
<td>8,875</td>
<td>8%</td>
<td>21.6%</td>
</tr>
<tr>
<td>4 Korea, South</td>
<td>7,822</td>
<td>7%</td>
<td>5.5%</td>
</tr>
<tr>
<td>5 Japan</td>
<td>4,775</td>
<td>4%</td>
<td>17.0%</td>
</tr>
<tr>
<td>6 Germany</td>
<td>4,551</td>
<td>4%</td>
<td>0.7%</td>
</tr>
<tr>
<td>7 Taiwan</td>
<td>4,457</td>
<td>4%</td>
<td>-18.3%</td>
</tr>
<tr>
<td>8 Australia</td>
<td>3,479</td>
<td>3%</td>
<td>22.5%</td>
</tr>
<tr>
<td>9 Singapore</td>
<td>3,461</td>
<td>3%</td>
<td>28.5%</td>
</tr>
<tr>
<td>10 Other</td>
<td>41,082</td>
<td>35%</td>
<td>6.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>116,729</strong></td>
<td><strong>100%</strong></td>
<td><strong>9.2%</strong></td>
</tr>
</tbody>
</table>
Machinery through June 2018

- Orders rose 8% in 2017 and 6% through June 2018.
- Shipments are up 8% through June.
- Production is on track to be 4% higher this year and 5% higher in 2019.
Aerospace outlook

• Includes:
  > Aircraft Mfg (commercial & military)
  > Aircraft Engine & Engine Parts Mfg
  > Other Aircraft Parts Mfg

• Production during 2018 is still in a holding pattern. Strong orders should lead to a ramp up of 8% in 2019, 10% in 2020, and 5% in 2021.

• Exports represent over 50% of production. China takes 11% of US exports, the EU takes 27%. Exports for the first half of 2018 are up 10% from a year ago.

• The threat of trade war would definitely be high impact for the industry.

• With nondefense orders up 16% in 2017 and up 12% during the first six months of 2018, production needs to increase.
Aerospace orders and shipments

- For the first six months of 2018, nondefense aerospace orders are up 12%, shipments up only 2%.

- First six months of 2018 defense aerospace orders are down 2%, but shipments rose 3%.
North American aircraft and parts production have been weak the past three years, but will need to ramp-up to fill orders, provided a trade war doesn’t develop.
Motor vehicle and parts outlook

• Includes:
  > Automobiles
  > Light trucks and SUVs
  > Medium and heavy duty trucks
  > Motor vehicle bodies and trailers
  > Motor vehicle parts

• Production of light trucks and SUV’s continue to grow at a healthy pace while automobiles have been declining. Medium and heavy truck production is on track to be up 12% this year and another 4% increase in 2019 is expected.

• Imports represent over 28% of demand. Combined, Mexico and Canada represent 50% of US imports. Imports for the first half of 2018 are up 2% from a year ago.

• Strong incomes and low unemployment will support continuing motor vehicle purchases, but light vehicle sales should remain below 17 million.
US light-vehicle sales have peaked; light trucks will continue to outsell cars

Source: IHS Markit

© 2018 IHS Markit
North America
Transplant driving growth

North America Light Vehicle Production

Issues

- Divergent trajectories – 2018 to 2025
  - Domestics
    - -0.8M units or -9.4%
    - Offshoring to China
    - Increasing shift to trucks
    - More closely tied to US sales
    - Build where you sell
  - Transplants
    - 1.09M units or +12.9%
    - Localization
    - Capacity expansion
    - Increasing exports
    - Greater vehicle diversity
    - Global sourcing

Source: IHS Markit
© 2018 IHS Markit
US motor vehicle imports by major country during 2017 and first six months of 2018

<table>
<thead>
<tr>
<th>Country</th>
<th>Million Dollars</th>
<th>Mkt Share of Total</th>
<th>% Change 6 Months 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>104,156</td>
<td>32%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Canada</td>
<td>58,427</td>
<td>18%</td>
<td>-6.2%</td>
</tr>
<tr>
<td>Japan</td>
<td>54,467</td>
<td>17%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Germany</td>
<td>27,976</td>
<td>9%</td>
<td>-7.8%</td>
</tr>
<tr>
<td>Korea, South</td>
<td>21,393</td>
<td>7%</td>
<td>-18.2%</td>
</tr>
<tr>
<td>China</td>
<td>15,625</td>
<td>5%</td>
<td>8.8%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>10,052</td>
<td>3%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Italy</td>
<td>5,353</td>
<td>2%</td>
<td>17.8%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>2,504</td>
<td>1%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Other</td>
<td>23,767</td>
<td>7%</td>
<td>26.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>323,720</strong></td>
<td><strong>100%</strong></td>
<td><strong>2.2%</strong></td>
</tr>
</tbody>
</table>
US motor vehicles and parts production will adjust to slow sales growth
Bottom line for the metal cutting industry markets

• Compared to our last forecast we have become slightly less optimistic for the metal cutting industry end markets. The main risk is the uncertainty surrounding a possible trade war.

• Productivity pressures, tax cuts and replacement demand will play a roll in the investment growth projected for in 2018 and 2019. This is a benefit for the heavy manufacturing.

• Stronger prices and favorable regulatory policies have ramped up the energy and related industries. Investment and support activities for energy should pick up well into the double digits this year and next.

• The US dollar remains strong and it is a significant headwind toward export growth.

• A trade war would create more business uncertainty and disrupt the supply chain. Not a positive environment for the capital equipment industries where up to 30% of production is exported.
Thank you...
Steve Stokey
Vice President
Allied Machine and Engineering Corp.
Eggs & Data Breakfast
McCormick Place | Room W-471
Thursday, Sept. 13, 2018
7:30 – 8:30 am

Thank You for Coming!