

# **INVESTMENT CASTING INSTITUTE**

2019

Spring Management Meeting



May 5 – 8, 2019

Wyndham Grand Rio Mar Puerto Rico  
Golf & Beach Resort

Rio Grande, Puerto Rico



# INVESTMENT CASTING INSTITUTE

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## 2019 SPRING MANAGEMENT MEETING

May 5 – May 8, 2019 – Rio Grande, Puerto Rico

### Sunday, May 5, 2019

4:00 p.m. - 5:30 p.m. **Registration**

5:30 p.m. - 7:00 p.m. **Welcome Reception**

**WELCOME RECEPTION**

**Sunday  
5:30 p.m. - 7:00 p.m.**

### Monday, May 6, 2019

7:00 a.m. - 8:00 a.m. **Registration**

8:00 a.m. - 8:30 a.m. **Welcome**  
**ICI President – Tim Sullivan**  
*Hitchiner Manufacturing*

**Opening Remarks**  
**Annual General Meeting**

8:30 a.m. - 9:00 a.m. **Joseph E. Fritz**  
**Executive Director**  
*Investment Casting Institute*

**2018 Business Summary**

9:00 a.m. - 10:00 a.m. **Dr. Coyte Cooper**  
*Ollin Leadership*

**Keynote Address: Flip the Script: 4 Habits to Radically  
Increase Productivity and Potential**

10:00 a.m. - 10:15 a.m. **Break**

10:15 a.m. - 11:15 a.m. **Steven DeCenzo**  
*Honeywell Retiree*  
**Nipendra P. Singh**  
*S&A Consulting Group*

**3D Metal Printing - A Strategic Decision For IC  
Foundries**

11:15 a.m. - 12:15 p.m. **Javier Ruiz**  
*Bacardi*

**LEAN Manufacturing the Bacardi Way**

12:30 p.m. - 5:30 p.m. **Golf Outing**

12:30 p.m. - 5:45 p.m. **Bacardi Factory and Castillo San Cristobal Tour**  
**Evening On Your Own**

**GOLF OUTING**  
**Wyndham Rio Mar Golf  
Course – Ocean View**

**ALTERNATE EVENT**  
**Tour of Bacardi Factory and  
Castillo San Cristobal**

**Tuesday, May 7, 2019**

8:00 a.m. - 8:10 a.m. **Morning Welcome**

8:10 a.m. - 9:10 a.m. **Rick Alaniz**  
*Alaniz Law & Associates, PLLC*

9:10 a.m. - 10:10 a.m. **John DuBois**  
*Optimize, Inc.*

10:10 a.m. - 10:30 a.m. **Break**

10:30 a.m. - 10:50 a.m. **Ron Williams**  
*The Blayson Group, Ltd.*

10:50 a.m. - 11:10 a.m. **Carlos Olabe**  
European Investment Casters' Federation

11:10 a.m. - 11:30 a.m. **Hiroshi Yokota**  
*Japan Foundry Society*  
**Kazuyuki Okamoto**  
*CASTEM Technology Inc.*

11:30 a.m. - 12:00 p.m. **Joseph E. Fritz**  
*Investment Casting Institute*

6:00 p.m. - 9:30 p.m. **Dinner Event**

**GUEST EVENT**  
**Tour of Old San Juan with**  
**traditional luncheon**

**9:00 a.m. - 2:45 p.m.**

**Update on Labor and Employment Issues – 2019**

**Raise your Leadership Level to Rock Star**

**Global Market Outlook 2019**

**2019 European Investment Casting Market Review**

**Current Status of Japanese IC Market**

**2019 North American Market Outlook**

**TUESDAY EVENING**  
**ENTERTAINMENT &**  
**DINNER EVENT**

**Traditional Puerto Rican**  
**Beach Pig Roast**  
**6:00 p.m. - 9:30 p.m.**

**Wednesday, May 8, 2018**

8:00 a.m. - 8:10 a.m. **Morning Welcome**

8:10 a.m. - 9:10 a.m. **Lisa Ryan**  
*Grategy*

**How to Keep Your Talent from Becoming Theirs**

9:10 a.m. - 10:10 a.m. **Tim Kinney**  
*Kinney Strategy*

**7 Growth Killers (And How To Stop Them)**

10:10 a.m. - 10:30 a.m. **BREAK**

10:30 a.m. - 11:30 a.m. **Dr. Ken Mayland**  
*ClearView Economics*

**The 2019-2020 Economic Outlook: Is the Tank Running Out of Gas?**

11:30 a.m. - 11:45 a.m. **ICI President – Tim Sullivan**  
*Hitchiner Manufacturing*

**Closing Remarks**  
***Meeting Adjourned***

# **INVESTMENT CASTING INSTITUTE**

## **MISSION STATEMENT**

The Investment Casting Institute will market the investment casting industry and support its members by facilitating professional, academic, educational, and technical interests, and will provide a forum for advancement in technology and product quality for customers and manufacturers, while promoting free trade, fair competition, and adhering to U.S. laws and regulations regarding commerce and industrial trade.

## **ANTITRUST POLICY STATEMENT OF THE INVESTMENT CASTING INSTITUTE**

The Investment Casting Institute (ICI) is a trade and technical association of investment casting foundries (and their suppliers) where castings of metal are made.

The ICI is organized to promote the common interests of the investment casting industry. The ICI is not intended to become, and will not become, involved in the competitive business decisions of its members, nor will it take any action which would tend to restrain competition in the investment casting industry.

Nevertheless, it is recognized by the Board of Directors of ICI that the Institute itself, as well as its varied activities, could be regarded by some as a forum or opportunity to promote anti-competitive conduct. For this reason, the Board of Directors promulgates this statement of policy to make clear its unequivocal support for the policy of competition served by federal and state antitrust laws, as well as its uncompromising intent to comply strictly in all respects with those laws.

In addition to stating the ICI's firm commitment to the principle of competition served by antitrust laws, the ICI also wishes to advise that the penalties which may be imposed upon both ICI and its individual and corporate members involved in any violation of such laws are now so severe that prudent business judgment demands that every effort be made to avoid any such violation. In addition to injunctions and other equitable remedies, violations of the Sherman Act, such as price-fixing, are felony crimes for which individuals may now be imprisoned for up to ten (10) years and fined up to one million dollars (\$1,000,000.00), and corporations can be fined up to 100 million dollars (\$100,000,000.00) for each offense, or twenty percent (20%) of affected commerce. The Department of Justice has recently obtained fines of up to five hundred million dollars (\$500,000,000.00). Under the Sherman Act, state Anti-Trust law, the Federal Trade Commission Act and Robinson-Patman Act, treble (triple) damage claims based on the amount of gain or loss by private parties (including class actions) for antitrust violations are extremely expensive to litigate and can result in judgments of a magnitude which could destroy the ICI and seriously affect the financial interests of its members. This includes attorney's fees and "joint and several liability" where one may be liable for an entire Judgment even though their role in the antitrust violation was rather small.

It is the responsibility of every member of the ICI to be guided by ICI's policy of strict compliance with antitrust laws in all ICI activities. It shall be the special responsibility of ICI officers, directors and committee chairmen to ensure that this policy is known and adhered to in the course of activities pursued under their leadership.

To assist the ICI staff and all its officers, directors and committee chairmen in recognizing situations which may raise the appearance of an antitrust problem, the Board will as a matter of policy furnish to each of such persons copies of ICI's General Rules of Antitrust Compliance. The ICI will also make available general legal advice when questions arise as to the manner in which the antitrust laws may apply to the activities of the ICI or to any committee thereof.

Antitrust compliance is the responsibility of every ICI member. If you have any questions or information concerning potentially anti-competitive conduct, please contact the Board's Executive Committee orally, in writing and even anonymously. Alleged violations of the ICI General Rules of Antitrust Compliance or of this policy statement will be vigorously investigated and reviewed with due process pursuant to the by-laws of the ICI; violations may result in revocation of membership in ICI and removal from any ICI office.

## GENERAL RULES OF ANTITRUST COMPLIANCE

The following rules are applicable to all ICI activities and must be observed in all situations and under all circumstances, without exception or qualification other than as noted below:

1. Neither the ICI nor any committee, conference or activity of the ICI shall be used for the purpose of bringing about, or attempting to bring about, any understanding or agreement, whether written or oral, formal or informal, expressed or implied, among competitors with regard to prices, terms or conditions of sale, discounts, tying provision or purchase of a good or service with another, exclusive dealing arrangements, distribution, volume of production, allocation of territories or customers, restrictions on non-deceptive advertising, or credit of suppliers, customers or competitors or any understanding or agreement which could be perceived as restraining competition.
2. No ICI activity or communication shall (a) include discussion, survey, or action, for any purpose or in any fashion of costs, prices or pricing methods, rebates or other price discrimination, production quotas or other limitations on either the timing or volume of production or of sales; (b) take any action likely to raise prices or reduce quantity or quality of goods available, or (c) involve allocation of territories or markets or customers in any way. "Communication" includes but is not limited to electronic communications, such as emails, text messages, faxes, blog or web posts and/or social media posts.
3. No ICI committee shall undertake any activity, which involves exchange or collection and dissemination among competitors, of any information regarding prices, pricing methods, costs of production, or of sales or distribution or individual company statistics of any kind, without first obtaining the advice of legal counsel, provided by ICI, as to those proper and lawful methods by which these activities may be pursued.
4. No ICI activity or communication shall include any discussion or action which may tend to or may be construed as an attempt to prevent any person or business entity from gaining access to any market or to any customer for goods or services, or to prevent or boycott any supplier, competitor, customer, or other entity from obtaining, accessing, or selling a supply of goods or otherwise purchasing or distributing goods or services freely in the market.
5. No ICI activity or communication shall include any discussion or action which might be construed as an agreement or understanding to refrain from purchasing any raw materials, equipment, services or other supplies from any supplier.
6. Neither ICI nor any committee thereof, shall make any effort to bring about the standardization of any product or method of manufacture, credentialing, listing or certification of any product or program for the purpose of preventing the manufacture or sale of any product not conforming to a specified standard or which would tend to have the overall affect of either lessening competition or resulting in a degree of price stabilization.
7. No person or company shall be commercially disparaged nor shall any ICI Member make statements that are reasonably likely to have a negative reputational impact on another so as to exclude that person or company from ICI membership or participation in any ICI activity where such exclusion is designed to or may impair such person's or company's ability to compete effectively in the investment casting industry.
8. In conducting ICI committee meetings, the chairman thereof shall prepare and follow a formal agenda which shall be provided to all committee members prior to the meeting; else it shall not be considered. Agenda items listed as "Any Other Business" shall be prohibited. Minutes of each meeting shall be distributed to all persons who attended such meetings. Approval of the minutes shall be obtained from the membership of the committee at its next meeting. Copies of the minutes shall be transmitted to the headquarters staff.
9. ICI speakers and authors of conference papers shall be informed of the need to comply with ICI's antitrust policy in the preparation and presentation of their papers and addresses.
10. In informal or social discussions at the site of an ICI meeting (whether such meetings are conducted in-person or via telecommunications services), which are beyond the control of its officers and chairmen, all representatives are expected to observe the same standards of personal conduct required of ICI in its compliance with these antitrust guidelines. Members are reminded that even actions or discussions occurring outside of the U.S. may still be subject to federal antitrust laws. In addition, copies of the foregoing Antitrust Policy Statement and General Rules of Antitrust Compliance will be included in registration packets and will also be printed in the ICI Committee Directory. The Board may from time to time require all members to sign an acknowledgement that each member has read and understood these Rules of Antitrust Compliance.

# **PROGRAM**

## Speakers

### 2018 Business Summary & 2019 North American Market Outlook

*Joseph E. Fritz*  
Executive Director  
Investment Casting Institute  
1 Paragon Drive, Suite 110  
Montvale, NJ 07645 USA  
Phone: 201-573-9770  
E-mail: [jfritz@investmentcasting.org](mailto:jfritz@investmentcasting.org)

### Update on Labor & Employment Issues - 2019

*Rick Alaniz*  
Partner  
Alaniz Law & Associates, PLLC.  
20333 State Highway 249, Suite 272  
Houston, TX 77070 USA  
Phone: 281-833-2200  
E-mail: [ralaniz@alaniz-law.com](mailto:ralaniz@alaniz-law.com)

### Flip the Script: 4 Habits to Radically Increase Productivity and Potential

*Dr. Coyte Cooper*  
Founder & CEO  
Ollin Leadership  
11952 Canyon Ridge Drive  
Anacortes, WA 98221 USA  
Phone: 919-699-3420  
E-mail: [coytecooper@ollinliving.com](mailto:coytecooper@ollinliving.com)

### Raise Your Leadership Level to Rock Star

*John DuBois*  
President  
Optimize, Inc.  
5 Pemberly Drive  
Windham, ME 04062 USA  
Phone: 207-831-8638  
E-mail: [johnd@optimizeincorporated.com](mailto:johnd@optimizeincorporated.com)

### 3D Metal Printing – A Strategic Decision for IC Foundries

*Steven De Cenzo*  
Honeywell Retiree  
15305 NE 4<sup>th</sup> Street  
Vancouver, WA 98684 USA  
E-mail: [sedecenzo@gmail.com](mailto:sedecenzo@gmail.com)

### Global Market Outlook 2019

*Ron Williams*  
Managing Director  
The Blayson Group Ltd.  
Denny Industrial Centre, Pembroke Avenue  
Waterbeach CB25 9QP UK  
Phone: 44/1223-861491  
E-mail: [ronwilliams@blayson.com](mailto:ronwilliams@blayson.com)

### 3D Metal Printing – A Strategic Decision for IC Foundries

*Nip Singh*  
Chairman & CEO  
S&A Consulting Group, LLP.  
2573 Butterwing Road  
Cleveland, OH 44124 USA  
Phone: 216-593-0050  
E-mail: [nsingh@sa-consultinggroup.com](mailto:nsingh@sa-consultinggroup.com)

### 2019 European Investment Casting Market Review

*Carlos Olabe*  
Executive Director  
European Investment Casters' Federation (EICF)  
Almda Mazarredo, 37  
Bilbao / Bizkaia, Spain 48009  
Phone: 34/629-160239  
E-mail: [colabe@eicf.org](mailto:colabe@eicf.org)

### LEAN Manufacturing the Bacardi Way

*Javier Ruiz*  
Engineering & Maintenance Manager  
Bacardi Corporation  
PR-165  
Cataño, 00949, Puerto Rico  
Phone: 787-788-8400  
E-mail: [jruiz@bacardi.com](mailto:jruiz@bacardi.com)

### Current Status of Japanese IC Market

*Hiroshi Yokota*  
Executive Director  
Japan Foundry Society  
Room 501, Kikai-Shinko Kaikan Bldg.  
3-5-8, Shibakoen, Minato-ku  
Tokyo, Japan 105-0011  
Phone: 81/3-34322991  
E-mail: [yokota@foundry.jp](mailto:yokota@foundry.jp)

**How To keep Your Talent from Becoming Theirs***Lisa Ryan*

Chief Appreciation Strategist

Grategy

3222 Perl Court

North Royalton, OH 44133 USA

Phone: 216-225-8027

E-mail: [lisa@grategy.com](mailto:lisa@grategy.com)**7 Growth Killers (And How To Stop Them)***Tim Kinney*

President

Kinney Strategy

222 Amisrad Drive

St. Augustine, FL 32086

Phone: 904-484-7010

E-mail: [tim@kinneystrategy.com](mailto:tim@kinneystrategy.com)**The 2019-2020 Economic Outlook: Is the Tank Running Out of Gas?***Dr. Ken Mayland*

President

ClearView Economics

2237 W Ocean Oaks Circle

Vero Beach, FL 32963 USA

Phone: 216-595-9931

E-mail: [drkencvecon@gmail.com](mailto:drkencvecon@gmail.com)

## SPEAKER BIOGRAPHIES

**Joseph E. Fritz**.....**Paper No: 1**  
**Investment Casting Institute**

*Since joining the Investment Casting Institute in 2013, Joseph Fritz has placed a strong focus on Enhancing Member services, promoting the growth of the industry and developing its human resource pool. He is a proven motivator who continually strives to better the organization. As the Institute's chief executive, he has leadership authority over the Investment Casting Institute and its subsidiary INCAST Corporation. With over 30 years' experience in the Aerospace and Power Generation industries, Mr. Fritz has worked in a variety of capacities with a number of Fortune 100 companies as well as with privately held firms. Over his career, he has contributed to a number of programs, including the Trident II Fire Control System, the Joint Strike Fighter and the Boeing 787. He is an advocate of inter-association cooperation, collaborating on projects and ideas with the American Foundry Society, European Investment Casters Federation, the Japanese Foundry Society and the Foundry Educational Foundation. Mr. Fritz holds degrees in Engineering and Computer Science from the University of Connecticut and an MBA from Union College.*

**Dr. Coyte Cooper**.....**Paper No: 2**  
**Ollin Leadership**

*Dr. Coyte Cooper is a bestselling author, international speaker and high performance coach who is one of the premier experts in the area of leadership and maximizing human potential. A former NCAA Division I All-American, college professor and the current founder/CEO of Ollin Leadership, Dr. Cooper has worked closely with thousands of proactive professionals the past few years to develop a unique transformational system that helps audience members radically enhance their clarity, focus, ENERGY, motivation, passion and results on a consistent daily basis. This has been carefully crafted in a way that allows professionals to build an uncommon personal brand that fosters meaningful interactions, solid relationships and inspires others around them to live to potential.*

**Steven De Cenzo**.....**Paper No: 3**  
**Honeywell Retiree**

*Steven De Cenzo is a retired foundry metallurgist and process engineer. Before retiring from the Material and Process Engineering group of Honeywell Aerospace in 2016, he was the lead casting engineer for both technical and commercial issues for all types of casting processes. He also assisted other Honeywell International operating units in casting and foundry selection and problem resolution. Prior to joining Honeywell in 2001, he and his wife operated Process and Materials Control Associates (an ICI supplier member at that time) through the 90's specializing in foundry and heat treat process control. He began his foundry career at the Howmet Corporation (now an Arconic unit) from 1973 to 1989 and held a variety of positions at all five of its North American superalloy foundries, and the Research Center, including foundry process and quality engineer (CQE), chief metallurgist and raw material manager. For SAE, he served in turn as a supplier, consultant, and then customer member of the Aerospace Materials Division Commodity Committees, the Aerospace Metals and Engineer Committee (AMEC), the AMEC Surface Enhancement Subcommittee, and the Ground Vehicle Surface Enhancement Committee. He is currently a liaison member of the Additive Manufacturing Metals and Polymers Committees. In 2011, he received the SAE Technical Standards Board Outstanding Contribution Award. He graduated from the Metallurgy program at the Don Bosco Technical Institute in Rosemead, CA. He received a BS in Materials Science from Michigan State University and an MBA in Manufacturing Operations from the Wharton School of Business at the University of Pennsylvania.*

**Nipendra (Nip) Singh**.....**Paper No: 3**  
**S&A Consulting Group, LLP**

*Nipendra (Nip) Singh has been an affiliate member of ICI for more than 28 years. He is also member of ICI Board of Directors representing affiliate members and working/chairing many key committees for the welfare of Investment Casting in general and both Affiliate and Regular members. Nip has almost 40 years of experience in the high technology aircraft engine components manufacturing business including nearly 20 years with Rolls Royce, General Electric and TRW/PCC Corporations. Since 1991 Nip is Consulting Partner and CEO of S&A Consulting Group LLP, Cleveland, USA.*

**Javier Ruiz**.....**Paper No: 4**  
**Bacardi Corporation**

*For the past twelve years, Javier has been leading engineering and maintenance teams in the manufacturing industry. In 2016 he joined Bacardi Corporation in Puerto Rico to lead its amazing maintenance team which supports the daily operation of the biggest premium rum distillery in the world. Having worked at companies such as Baxter Healthcare, Zimmer Holdings, Eli Lilly, and Bacardi, Javier has energized his teams by constant emphasis on paying attention to details to drive continuous improvement. Implementing lean initiatives and tools has always been a key ingredient in maintaining operation efficiency and employee motivation. However, having all personnel involved in finding solutions and innovative ideas is the biggest weapon of all. At Bacardi, over 15 Self-Directed Teams (SDTs) have been working for the past five years to develop and implement efficiency projects, which are presented at an annual competition, Bacardi's Lean Fair.*

## SPEAKER BIOGRAPHIES

**Rick Alaniz**.....**Paper No: 5**

**Alaniz Law & Associates, PLLC**

*Rick Alaniz has been at the forefront of labor and employment law for over thirty-five years. He began his legal career as a trial attorney with the U.S. Department of Labor, served on the President's Cost of Living Council during the Nixon Administration and also held prominent posts within the National Labor Relations Board, first in Washington D.C. and later in Minneapolis where he coordinated the NLRB's enforcement actions in the five-state Midwestern region. A Partner in private practice since 1985, his experience has only deepened Rick's enthusiasm for labor and employment law and his drive for continued excellence in the field. He is Board Certified in Labor and Employment Law by the Texas Board of Legal Specialization. Rick contributes dozens of articles per year on labor and employment law to trade journals and conducts numerous seminars each month to client companies and trade associations across the country.*

**John P. DuBois**.....**Paper No: 6**

**Optimize, Inc.**

*John DuBois has over 30 years of manufacturing and design experience across several industries including financial services, healthcare services, molded fiber, steel can manufacturing shipbuilding/ship repairing, secondary wood products, textiles, aerospace and automotive products. As a nationally recognized Lean Six Sigma Facilitator/Sensei, he has delivered Lean Six Sigma facilitation services in all four public Navy shipyards, NAVSEA, NAVAIR, and the U.S. Air Force as well as both of the largest Private Navy Shipbuilding Primes and the world's second largest Aerospace Prime. His background includes experience with the Toyota Production Systems, Lean, Six Sigma, Theory of Constraints, management of multi-million-dollar contracts, and supply chain development. As an inventor and innovator, he has designed and patented several consumer products in use today and has two patents building training systems pending.*

**Ron Williams**.....**Paper No: 7**

**The Blayson Group Ltd.**

*Ron Williams graduated in Chemistry, is a member of the Royal Society of Chemistry and as Managing Director of The Blayson Group Ltd, is responsible for the Company's global operations and activities. He has over 35 years' experience within the investment casting industry and has had the privilege of working closely with numerous investment casting associations, institutes and companies Worldwide. He is currently a Board Director of the EICF. Combining these connections with his industry experience, he has been able to present numerous studies and reviews of the World investment casting market to a Global audience. At the ICI Meeting in October 2018 in Kansas City, Ron received the ICI Hall of Honor Award from the Institute.*

**Carlos Olabe**.....**Paper No: 8**

**European Investment Casters' Federation (EICF)**

*Carlos Olabe is an industrial engineer educated in Bilbao where he studied for 5 years of University education, plus two devoted to Ph.D. studies. His professional career has led him through different industrial sectors where he has developed as a true engineer to managerial positions. During the 80's he worked in the Electrical Power Machinery sector where he dealt with nuclear power product qualifications introducing him into the heart of Quality Assurance. Proceeding from that, Olabe was the first Quality Director of the brand new aerospace company created in Spain in 1989 (namely ITP Industria de Turbo Propulsores,) where he developed to be Project Director of the Eurofighter power plant (Eurojet Engine) to latter be appointed Programs Director (managing the different programs of the company most in the orbit of Rolls Royce). A subsequent move for ITP was the creation of a brand new investment casting facility, PCB, to support ITP supply needs on one side but open to the market at the same time in order to sustain true competitiveness. Olabe started the company from a greenfield positioning it in a very short period as a competent and reliable supplier to most of the European and American aerospace projects. In addition to aerospace, PCB, serves alternative markets such as IGT, nuclear components and medical implants. Since 2014, Olabe has been responsible for the day to day management of the European Investment Caster's Federation in the role of CEO.*

## SPEAKER BIOGRAPHIES

**Hiroshi Yokota**.....**Paper No: 9**

**Japan Foundry Society**

*Hiroshi graduated from Nagasaki University School of Economics and at the same time joined Hitachi G's trading company. While employed at Hitachi G Trading Company, Hiroshi was in the sales development field of materials and parts. Especially exhaust engine parts of truck engine. Within two years, he became a director of a local subsidiary in Singapore. During this presentation, he will report on the situation of Japanese IC market and share their hard work with a desire to make cooperative relations with the ICI, EICF and all members of the investment casting industry.*

**Lisa Ryan**.....**Paper No: 10**

**Grategy**

*An award-winning speaker and author of ten books, Lisa works with her clients to develop employee and client engagement initiatives and strategies that keep their top talent and best clients from becoming someone else's. Lisa's expertise includes: strengthening workplace culture, improving employee engagement, increasing customer retention, and initiating gratitude strategies ("Grategies") for personal and professional transformation. Lisa's participants enjoy her high energy, enthusiastic delivery and quick wit and they leave the session with ideas they are committed to acting on immediately to make positive workplace culture changes. Lisa costars in two films with other experts including Jack Canfield of "Chicken Soup for the Soul." She is the Past-President of the National Speakers Association, Ohio Chapter and holds an MBA from Cleveland State University.*

**Tim Kinney**.....**Paper No: 11**

**Kinney Strategy**

*Over the past 28 years, Tim Kinney has helped companies generate hundreds of millions in new growth. He is currently the Vice President of Accident & Health Marketing for Sirius Group, a global reinsurance company. Tim is also a writer, trainer and consultant specializing in strategic growth planning. He is the Editor of the blog Growth Monitor Weekly and recently produced an online course, How To Build Your Growth Strategy. His book, the Growth Strategist's Guidebook, is available on Amazon.com. Tim has earned his place as a trusted advisor to business leaders facing complex challenges with honesty, objectivity and an unfailing commitment to client objectives. His unique combination of experience as an internet entrepreneur, inventor, risk manager, and ad agency executive in diverse industries like manufacturing, reinsurance, insurance, and independent film and music can be tapped to deliver the unexpected solution or insight that will make the difference in your success.*

**Dr. Ken Mayland**.....**Paper No: 12**

**ClearView Economics**

*Dr. Ken Mayland is President of ClearView Economics, LLC, a firm specializing in economic research and forecasting. Ken was previously the Chief Economist of two major financial institutions. Dr. Ken graduated with degrees in economics from MIT and the University of Pennsylvania (M.A. and Ph.D.). He has spent more than 45 years studying the business cycle in order to provide economic analyses to a variety of constituencies, and has won prestigious awards for his forecasting accuracy. He is "mostly retired," but continues to keep close tabs on the economy for his former clients with his monthly "ESSENTIAL Charts Update from ClearView Economics, LLC."*

Annual General Meeting  
OF THE  
**INVESTMENT CASTING INSTITUTE**  
AND SUBSIDIARY:  
**INCAST CORPORATION**

Wyndham Grand Rio Mar Puerto Rico Golf & Beach Resort  
Rio Grande, Puerto Rico  
May 5, 2019

**AGENDA**

1. Welcome
2. Introduction
3. To approve the Minutes of the 2018 Annual General Meeting of the Investment Casting Institute
4. To receive the report of the Board of Directors
5. To receive the financial report for the year 2018
6. Other business
7. Date and place of next meeting

Minutes of the 2018 Annual General Meeting  
OF THE  
**INVESTMENT CASTING INSTITUTE**  
AND SUBSIDIARY:  
**INCAST CORPORATION**

Fairmont Sonoma Mission Inn & Spa  
Sonoma, CA

APRIL 16, 2018

**INTRODUCTION**

Mr. Frank Lysiak, President of the Investment Casting Institute, called the meeting to order and welcomed all attendees at 8:00 a.m. on Monday, April 16, 2018.

Mr. Lysiak, welcomed the first time Management Meeting attendees and then introduced the Institute's Board of Directors.

**MINUTES OF THE 2017 ANNUAL GENERAL MEETING**

The minutes of the Annual General Meeting held at The Mills House Wyndham Grand Hotel, Charleston, SC May 1, 2017 was provided to the meeting attendees for review.

There were no questions or comments. Mr. C. Fischer then made a motion that the Minutes be accepted. Mr. T. Sullivan seconded the motion which was favorably approved by a majority of the attendees.

**REPORT OF THE BOARD OF DIRECTORS FOR 2018**

Mr. F. Lysiak then presented the 2018 Report of the Board of Directors.

**FINANCIAL REPORT FOR 2017**

Mr. F. Lysiak, President and Audit Committee Member, stated that the financial condition of the Institute was strong and that the annual audit was conducted and certified without exception.

Additionally, the Institute's procedures were satisfactory and found no deficiencies.

Mr. F. Lysiak announced that a copy of the 2017 Financial Statements is available to all ICI Members upon written request.

**OTHER BUSINESS**

There were no items of Other Business.

**DATE AND PLACE OF NEXT MEETING**

Mr. F. Lysiak announced that the next Annual General Meeting would be held on Monday, May 6, 2019. The location of the meeting will be at Wyndham Grand Rio Mar Puerto Rico Golf & Beach Resort, Rio Grande, Puerto Rico.

**MEETING ADJOURNMENT**

Mr. F. Lysiak adjourned the Annual General Meeting at 8:30 am.

REPORT OF THE  
BOARD OF DIRECTORS  
FOR THE YEAR

2018

## BOARD OF DIRECTORS REPORT FOR THE YEAR 2018

### MEETINGS OF THE BOARD OF DIRECTORS

The Board of Directors met four times during 2018: January 25; April 15; July 26; and October 21.

### THE BOARD OF DIRECTORS

The Board of Directors for 2018 is listed below:

**Regular Members:** Brad DeSplinter, (Past President) *TPM, Inc.*  
Cliff Fischer, *Wisconsin Precision Casting Corp.*  
Russ Gallagher, *Bescast, Inc.*  
Frank Lysiak, (President) *Kovatch Castings*  
John Marcin, *Pratt & Whitney*  
Tim Sullivan, (Vice President) *Hitchiner Manufacturing*  
Al Torok, *Precision Propeller Industries, Inc.*  
Ty Ueland, *SeaCast, Inc.*

**Affiliate Members:** Michael Hascher, *Eagle Engineered Solutions, Inc.*  
Michael Hendricks, *Ransom & Randolph*  
Julie Markee, *Key Process Innovations*  
Nip Singh, *S&A Consulting Group LLP*

**Institute Counsel:** Michael K. Breen, Esq.  
*Price, Meese, Shulman & D'Arminio*

**Institute Auditors:** Bernard Gingras, CPA  
*Murphy, Miller & Baglieri, LLP*

**Executive Director:** Joseph E. Fritz

### INSTITUTE OFFICERS FOR 2018:

Brad DeSplinter (Past President) – *TPM, Inc.*  
Frank Lysiak (President) – *Kovatch Castings*  
Tim Sullivan (Vice President) – *Hitchiner Manufacturing*

**Academic Advisor:** Russ Rosmait – *Pittsburg State University*

**Membership:**

The following companies were admitted as new members of the Institute during 2018:

***Regular Members:***

Aurora Casting & Engineering, Inc. Signicast	Intercast	Intermountain Precision Casting Inc.
---	-----------	--------------------------------------

***Affiliate Members:***

Applied Material Solutions, Inc. Gradient Lens Corporation Modtech USA Inc. Prentco LLC Zircar Refractory Composites, Inc.	ASI Standards Intrepid Automation Pavletich Patterns & Assembly Renaissance Services – Perfect	Georgia Southern University Legacy Foam LLC Pillar Induction Shape Technologies Group
--	---	--

***Associate Members:***

Admatec Europe BV General Foundries Pvt. Ltd.	Anderman Industrial Ceramics Treibacher Industrie AG	Ever Quantum, Inc. Turbo Cast (India) Pvt. Ltd.
--	---	--

**Resignations & Terminations:**

The resignations of the following companies are noted with regret:

***Regular Members:***

Calidad, Inc. Fundicion De Aleaciones Especial	Consolidated Casting Corp. Miller Castings Inc.	Fansteel Intercast Southern Cast Products
---	--	--

***Affiliate Members:***

AirGas – An Air Liquide Company Mold Masters International LLC	Forcebeyond Inc. Price-Driscoll Corporation	Mikro Systems Inc. Prince Minerals Inc.
---	--	--

***Associate Members:***

Elit Implant San Ve Tic Ltd. Sti Precisiewerk Tritech Group Ltd.	Gardner BTC Ltd. Siddha Laxmi Engineering Ind. Tycon Alloy Industries Co Ltd.	Japan High Comm Co Ltd. Sung-II Turbine Co. Ltd.
--	---	---

**INSTITUTE COMMITTEES FOR 2018:****\*EXECUTIVE COMMITTEE**

Brad DeSplinter – Frank Lysiak - Julie Markee – Tim Sullivan

**\*AUDIT COMMITTEE**

Brad DeSplinter - Frank Lysiak - Julie Markee – Tim Sullivan

**\* AWARDS COMMITTEE**

Tim Sullivan – Chairman

**Casting Subcommittee**

Joseph Fritz – Lead

**Intern Scholarship Subcommittee**

Russ Rosmait – Lead

**Innovator of the Year Subcommittee**

Frank Lysiak – Lead

**Honorary Member Subcommittee**

Nip Singh – Lead

**Hall of Honor Subcommittee**

Tim Sullivan - Lead

**\*EDUCATION COMMITTEE**

Nip Singh - Grayce Albanese - Joseph Fritz - Doug Neece - Mike Perry - Russ Rosmait

**\*GOVERNMENT AFFAIRS COMMITTEE**

Ty Ueland - John Cruickshank – Brad DeSplinter - Jerry Donohue - Joseph Fritz

John Paraszczak - Stephanie Salmon

**\*MARKETING COMMITTEE**

Mark Rabens - Erin Almaleh - Nora D'Ambra - Brad DeSplinter – Keith Fleming - Jenny Gladczak

Dean Kirschner - Cara Lynch - Nip Singh

**\*PROCESS CONTROL SEMINAR COMMITTEE**

Julie Markee – Grayce Albanese - Andy Bomberger – Sarah Mosher – Mark Oles

**\*PROCESS CONTROL STANDARDS**

Nip Singh – Len Ceriotti – Brian Ferg – Joseph Fritz – Craig Lanham – Frank Lysiak – John Marcin

Doug Marion - Thad Nykiel – Tom Planz

**\*PROGRAM COMMITTEE**

Cliff Fischer – Nora D'Ambra - Joseph Fritz - Jeff Lantz - Frank Lysiak - Doug Neece - Tim Sullivan

Barbara Tiseo - Al Torok

**\*PUBLICATIONS COMMITTEE**

Julie Markee – Noor Alam - Erin Almaleh - Matt Cavins - Naum Cherepakhov - Barry Dahlin - Russ

Gallagher - Wayne Gayford - Manuel Guerra - Mike Hendricks - Mark Oles - Christopher O'Rourke

Al Torok

**\*TECHNICAL COMMITTEE**

John Marcin – Len Ceriotti - Joseph Fritz - Mike Hendricks - Frank Lysiak - Doug Neece – Victor Okhuysen

Nip Singh - Al Torok - Bob Voigt – Dr. Mingzhi Xu

**Additive Mfg. Subcommittee**

Mike Hascher – Lead

**EDUCATION AND TRAINING**

The ICI's eighteenth Certification Course was held on May 30 - June 7, 2018. There was a total of 30 Regular and Affiliate members.

**PROCESS CONTROL SEMINAR**

This seminar was re-introduced in 2018 with outstanding results. The format of the class was changed from prior years. The new class is structured with minimal lectures and more interactive group activities focused on solving problems that many investment casting foundries face. The Process Control Seminar was held November 6 – 8. There was a total of 15 Regular and Affiliate Members.

**HUMAN RESOURCE DEVELOPMENT**

The Investment Casting Institute continues to support the Foundry Educational Foundation through participation at its annual College Industry Conference as well as carrying the FEF's advertising in INCAST Magazine. The Institute collects resumes from Member Universities throughout the year and posts them on the Institute's Members Only page for Member companies to review. The ICI also took an active role at university job fairs and through direct promotion of careers in the investment casting industry to high school students. Currently, the Institute has established a portal to facilitate communications and collaboration between Member companies and universities.

**GOVERNMENT RELATIONS PROGRAMS**

The Institute continues to participate in Government Affairs activities in concert with AFS. Members are regularly notified of regulatory and legislative activities of interest through INCAST Magazine, social media and email.

**MARKETING COMMITTEE**

The Marketing Committee has been working with the ICI to redesign its' website and develop promotional materials to support HR development and new Member recruitment. In 2018, the new Member orientation function, previously performed by the Membership Committee, will now be addressed by the Marketing Committee. As of January 1, 2018, the Membership Committee is being dissolved.

**SPRING MANAGEMENT MEETING (APRIL 15 – APRIL 18)**

The 2018 Spring Management Meeting was held at Fairmont Sonoma Mission Inn & Spa, Sonoma, CA. The total attendance was 112.

**65TH ANNUAL TECHNICAL CONFERENCE & EXPO (OCTOBER 21 - 24)**

The 65th Annual Technical Conference & Expo was held at Kansas City Marriott Downtown, Kansas City, MO. There were a total of 629 delegates, exhibitors, and show visitors in attendance.

**INDUSTRY PROMOTION**

The Institute continues to promote the industry through various exhibitions. In 2018, the Institute exhibited at AmCon Design & Contract Manufacturing Expo in Louisville, KY. Business leads generated by this activity were circulated to Regular Members for follow up.

The Institute held its annual casting contest (in conjunction with the 65th Annual Technical Conference & Expo). Winning entries were selected in Aerospace, Automotive, Commercial, International, Industrial, Fine Art and Defense market segments. All finalist castings were featured in INCAST Magazine and several other metal working publications and social media.

The February Buyers Guide issue of INCAST goes to a large number of OEMs that are not ICI members in order to promote the interest of our Affiliate Members.

The August issue of INCAST goes out to 300 OEM's to help promote the industry.

**INTERN SCHOLARSHIP PROGRAM**

The Institute presented six Intern Scholarships to students at the ICI Technical Conference in October. The Institute will once again award several scholarships in 2019.

**ANNUAL MEMBERSHIP DUES**

Membership dues for 2019 were increased by 4%. Dues had not been increased since 2014.

**AUDITOR**

The Board elected to re-appoint Bernie Gingras of Murphy, Miller & Baglieri, LLP as the Institute's Auditor for 2019.

**GENERAL COUNSEL**

The Board elected to re-appoint Michael Breen of Price, Meese, Shulman & D'Arminio as the Institute's General Counsel for 2019.

**A COPY OF THE INVESTMENT CASTING INSTITUTE AND SUBSIDIARY  
FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018, IS  
AVAILABLE TO MEMBERS UPON RECEIPT OF A WRITTEN REQUEST  
SENT TO THE INSTITUTE OFFICE.**



## **INDEPENDENT AUDITORS' REPORT**

To the Board of Directors  
Investment Casting Institute and Subsidiary  
1 Paragon Drive, Suite 110  
Montvale, New Jersey 07645-1744

We have audited the accompanying consolidated financial statements of Investment Casting Institute and Subsidiary, which comprise the Consolidated Statement of Financial Position as of December 31, 2018 and the related Consolidated Statements of Activities, Functional Expenses, and Cash Flows for the year then ended, and the related notes to the consolidated financial statements.

### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditors' Responsibility**

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Investment Casting Institute and Subsidiary, as of December 31, 2018, and the changes in their net assets and their cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

**Emphasis of Matter**

As discussed in note 2 to the consolidated financial statements, effective January 1, 2018, the Institute adopted Accounting Standards Update (ASU) No. 2016-14, Not-for-Profit Entities (Topic 958): Presentation of Financial Statements of Not-for-Profit Entities. Our opinion is not modified with respect to this matter.

*Mary K. Hill, CPA*

Glen Rock, New Jersey  
March 15, 2019

# **PRESENTATIONS**

**OPENING REMARKS  
ANNUAL GENERAL MEETING**

**Tim Sullivan  
Hitchiner Manufacturing**

# **2018 Business Summary**

**Joseph E. Fritz  
Investment Casting Institute**



## **2018 Business Summary**

**ICI Spring Management Meeting  
Rio Grande, Puerto Rico**

**Joseph E. Fritz**  
Executive Director  
Investment Casting Institute

Business Summary 1

## **2018 Business Summary**



- This perspective of the investment casting industry is based on survey responses received from North American foundries.
- The contents of this Report, including any figures related to projections, estimates, anticipated data, or future trends, are based on survey responses, not the opinion of the Institute, and are not necessarily representative of the investment casting industry or the membership of the Institute.
- The Institute does not make any recommendations or suggestions, or express any opinion, on this Report or the contents hereof.
- Neither the Institute nor its officers accept any legal responsibility for information, advice given or opinions expressed.

Business Summary 2



## **2018 Business Summary “How’s Business?”**

Business Summary 3

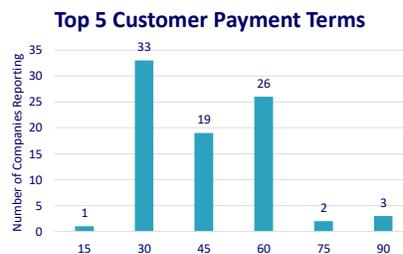
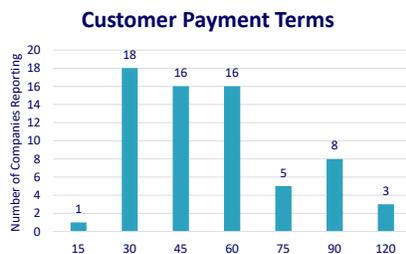
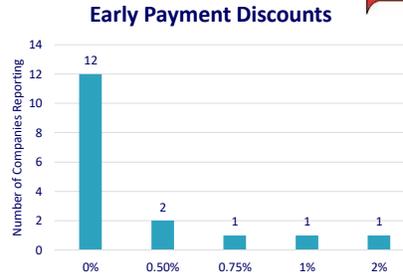
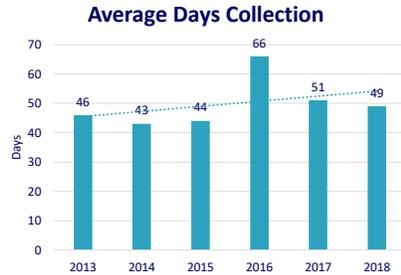
### **2018 Business Summary - “How’s Business?”**



- “How’s Business?” report – data collected as of April 1, 2019
- 18 reporting North American companies
- Each company did not respond to every question
- 21% of Regular Members represented
- Presentation of averages of data collected
- Final report issued April 9, 2019
  - 63 page report
  - Features over 100 charts detailing participant responses
  - Full report only available to participants

Business Summary 4

## How's Business Summary Accounts Receivable Collections & Terms



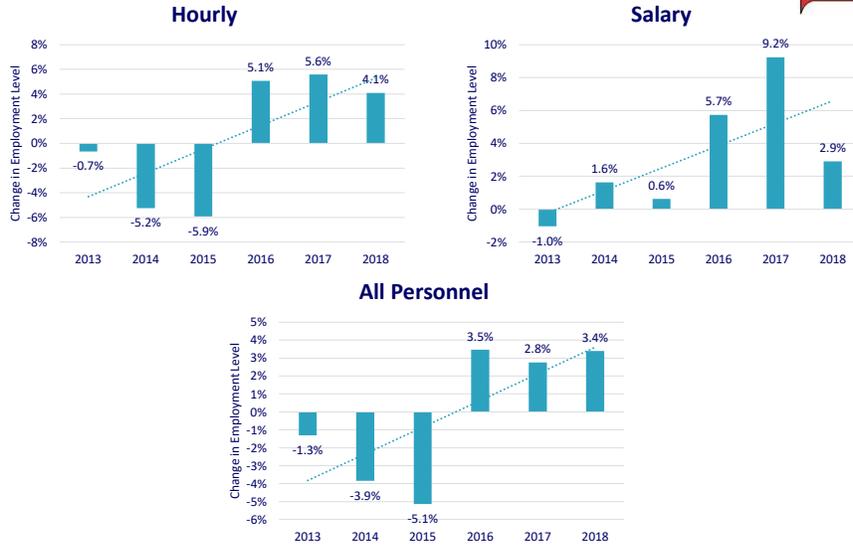
Business Summary 5

## How's Business Summary Labor



Business Summary 6

## How's Business Summary Change in Personnel



Business Summary 7

## How's Business Summary Average Monthly Sales per Equivalent Employee



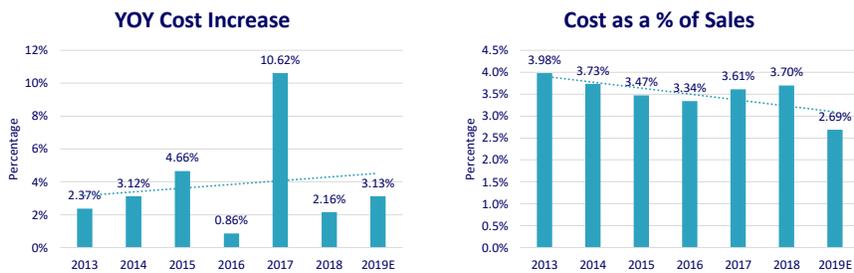
Business Summary 8

## How's Business Summary Workers' Compensation



Business Summary 9

## How's Business Summary Health Insurance



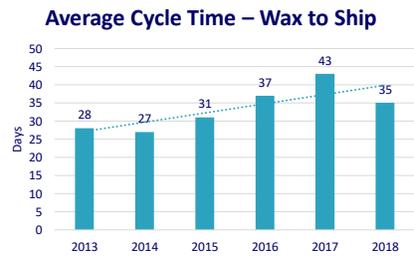
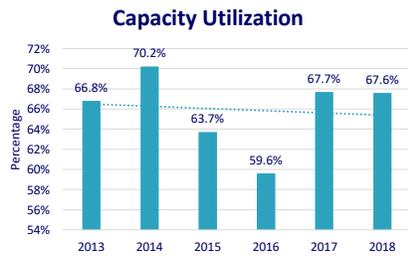
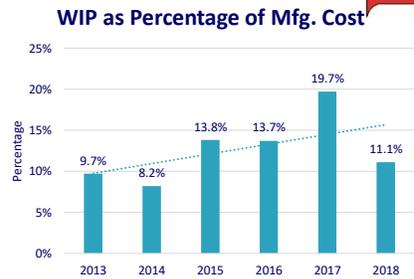
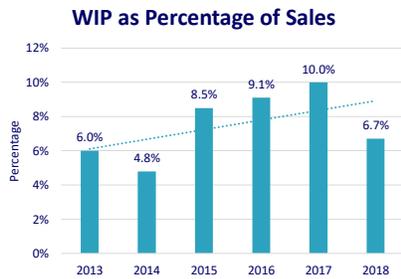
Business Summary 10

## How's Business Summary Inventory – Average Annual Turns



Business Summary 11

## How's Business Summary Work in Progress



Business Summary 12

## How's Business Summary Delivery Performance



### On Time Delivery

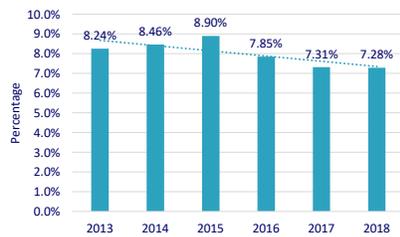


Business Summary 13

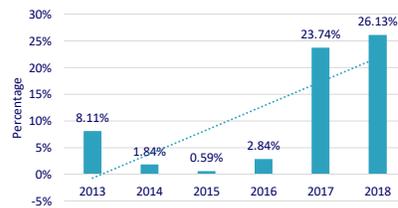
## How's Business Summary Quality



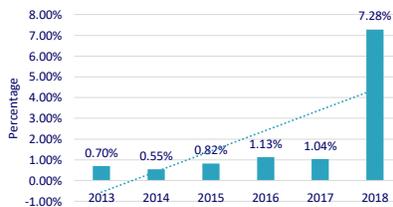
### Scrap as a % of Net Sales



### Scrap Castings as a % of Castings Shipped



### Sales Returns as a % of Net Sales

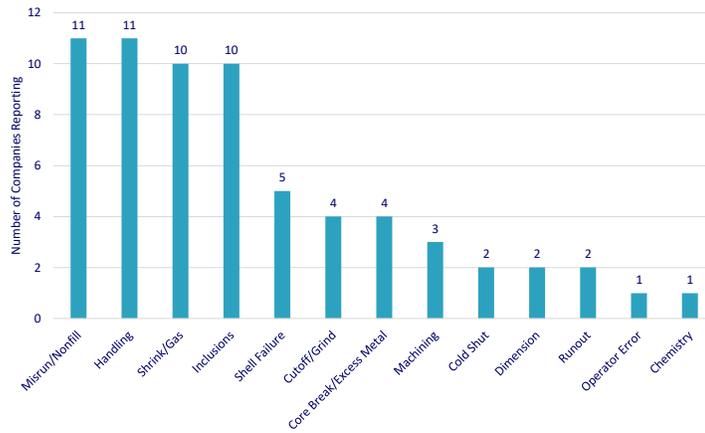


Business Summary 14

## How's Business Summary Delivery Performance



### Reasons for Scrap

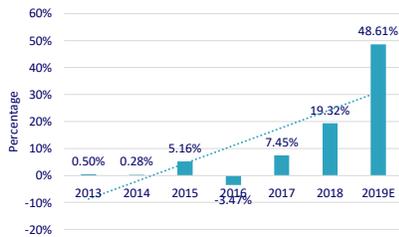


Business Summary 15

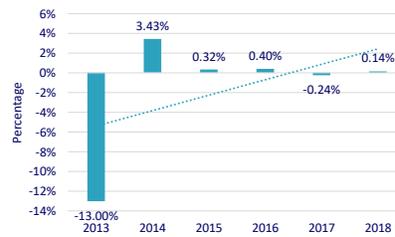
## How's Business Summary Aerospace Sales



### YOY Sales Growth Rate

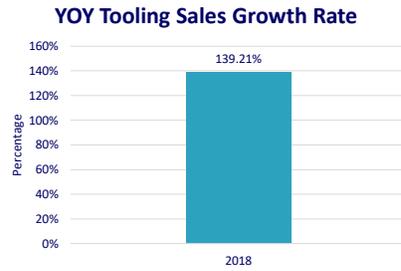
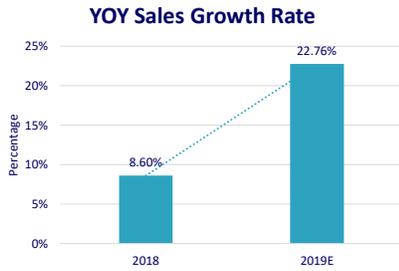


### YOY Tooling Sales Growth Rate

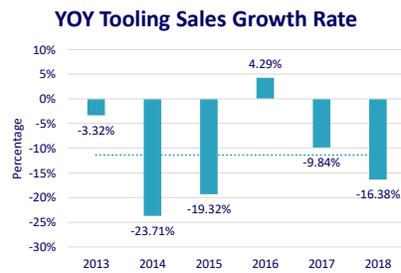
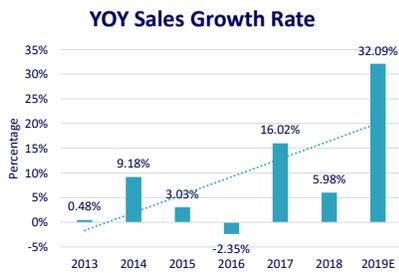


Business Summary 16

## How's Business Summary IGT Sales



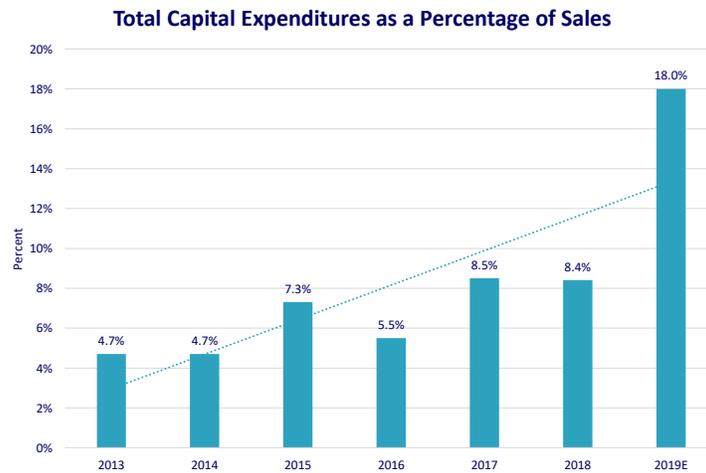
## How's Business Summary Commercial Sales



## How's Business Summary Sales



## How's Business Summary Capital Expenditure



## How's Business Summary Foreign Competition



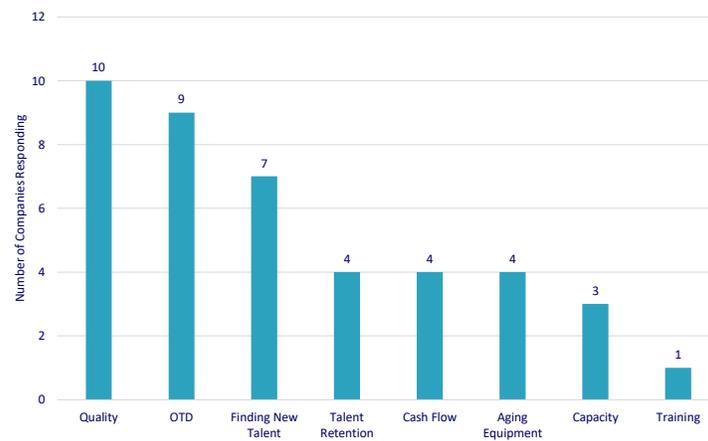
- 60% of the respondents are concerned over foreign competition
- Respondent concerns:
  - Lower labor costs
  - Customer pricing pressures
  - Lack of government regulation
- Respondents unconcerned cite:
  - Products under ITAR not at risk
  - Complex parts with large backlog
  - Company focuses on how to maintain volume

Business Summary 21

## How's Business Summary Business Outlook



Business Outlook – Primary Internal Concerns

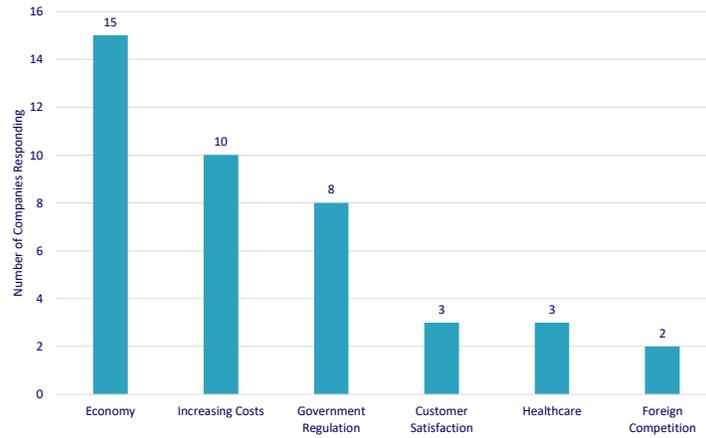


Business Summary 22

## How's Business Summary Business Outlook



Business Outlook – Primary External Concerns



**Thank you!**



# **Flip The Script: 4 Habits to Radically Increase Productivity & Potential**

**Dr. Coyte Cooper  
Ollin Leadership**



**FLIP**  
**THE SCRIPT**

**4 HABITS TO RADICALLY INCREASE  
PRODUCTIVITY AND POTENTIAL**

**Coyte Cooper, Ph.D.**  
**Bestselling Author, International Speaker and Coach**  
**[coytecooper@ollinliving.com](mailto:coytecooper@ollinliving.com)**



# THE BIG IDEA...

**FLIP**  
THE SCRIPT

- You could perform at such a high level that you blow yourself away by what you are able to accomplish.

Do you  
believe this  
statement?



*Chris Cooper*

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

3

# JUST WONDERING...

**FLIP**  
THE SCRIPT

**What do you think are the biggest BARRIERS  
stopping people from getting results  
they desire?**

*Chris Cooper*

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

4

# WHY NOT YOU?

**FLIP**  
THE SCRIPT

1 - Crazy Clutter

2 - Status Quo

3 - Negative Patterns

66%

54%

Only 10%

*Why does it matter?*

40,000

12.8/Day

4,672/Year

Limits Ability to Maximize Efficiency, Results and Potential

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

5

# WHAT IF YOU COULD...

**FLIP**  
THE SCRIPT

**Thoughts**

**Emotions**

**Beliefs**



~~40,000~~  
~~Negative thoughts~~



**How can I close the gap?**

**Focused  
Motivated  
Passionate**

**It's only a matter of time**

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

6



#1

# THE MORNING GROWTH ROUTINE

**FLIP**  
THE SCRIPT



*Chris Cooper*

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

#2

# GIVE YOURSELF THE GIFT OF GRATITUDE

**FLIP**  
THE SCRIPT



*Cory Cooper*

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

9

#3

# IMPLEMENT AN INSPIRED VALUE SYSTEM

**FLIP**  
THE SCRIPT



*Cory Cooper*

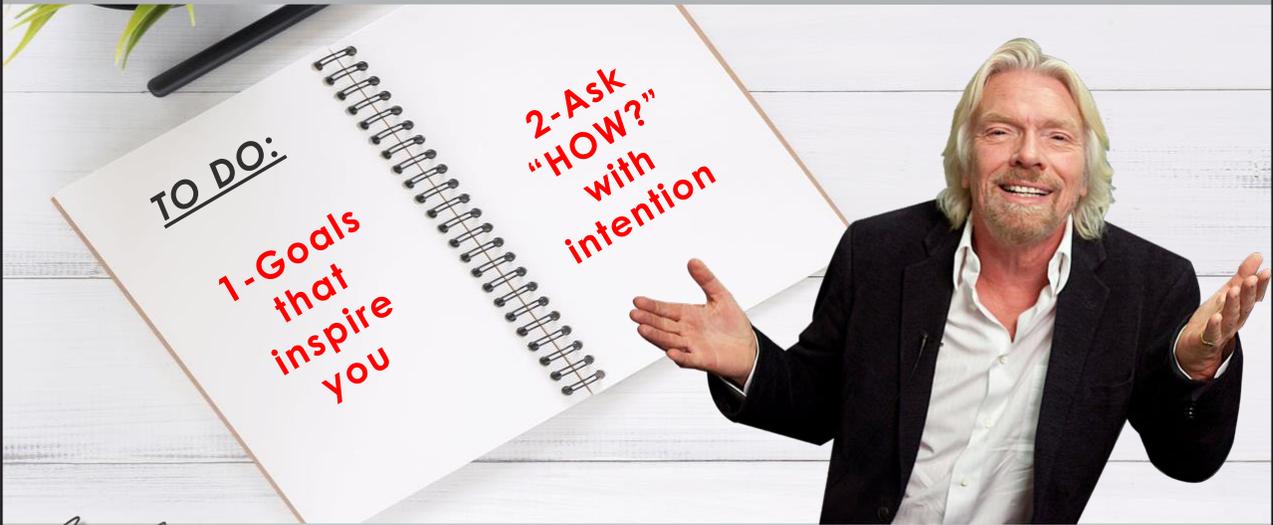
4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

10

#4

# GET YOURSELF SOME GOALS & MOVE

**FLIP**  
THE SCRIPT



*Chris Cooper*

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

12

# STRIVE TO SEE THINGS DIFFERENTLY



Mundane

**OBLIGATION**



Magical

**OPPORTUNITY**

**FLIP**  
THE SCRIPT

*Chris Cooper*

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

13

# HOW CAN I HELP?

**FLIP**  
THE SCRIPT

**Email: [coytecooper@ollinliving.com](mailto:coytecooper@ollinliving.com)**

**Website: [www.coytecooper.com](http://www.coytecooper.com)**

**APPRECIATE YOU LISTENING!!!**

**EMPOWERING  
PEOPLE  
TO POTENTIAL**

*Coyte Cooper*

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

14

# 28-DAY CHALLENGE (PLUS RESOURCE)

**FLIP**  
THE SCRIPT

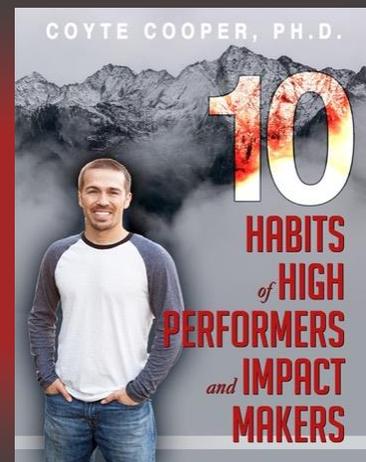
**Week #1: Read 15-Minutes Each Morning**

**Week #2: Gratitude Matrix Each Morning**

**Week #3: Revisit Values Each morning**

**Week #4: Goals + Empowering HOW Each Morning**

**[www.coytecooper.com](http://www.coytecooper.com)**



*Coyte Cooper*

4 HABITS TO MAXIMIZE PRODUCTIVITY AND POTENTIAL

15

**FREE TRAINING**

**FLIP**  
THE SCRIPT

**BREAKING BARRIERS  
MASTER COURSE**

*Coyte Cooper*



**SIGN-UP AT [WWW.COYTECOOPER.COM](http://WWW.COYTECOOPER.COM)**

# **3D Metal Printing – A Strategic Decision for IC Foundries**

**Steven De Cenzo – Honeywell Retiree  
Nipendra P. Singh – S&A Consulting Group**

# **ICI Spring Management Meeting 2019**

## **3D METAL PRINTING**

### **A STRATEGIC DECISION FOR IC FOUNDRIES**

By

Steven De Cenzo, Retired

Nipendra P. Singh, S&A Consulting Group

3D printing is no stranger in our industry- 3D patterns, ceramic core and ceramic shell printing has been with us for long time. Most of the foundries are using 3D patterns for a long time. Recently another new technology of 3D Metal printing has surfaced, and normal reaction is heard all around in IC industry. This paper will show the pro and con of 3D metal printing and the trends and also provide some insight whether this technology should be embraced by current IC foundries.

# ***LEAN Manufacturing the Bacardi Way***

**Javier Ruiz  
Bacardi Corporation**



**GLOBAL OPERATIONS**  
INDUSTRY LEADING DELIVERY OF PREMIUM BRANDS

# LEAN Manufacturing the Bacardi Way

May 6, 2019



**GLOBAL OPERATIONS**  
INDUSTRY LEADING DELIVERY OF PREMIUM BRANDS

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## Safety First....Safety Always



**GLOBAL OPERATIONS**  
INDUSTRY LEADING DELIVERY OF PREMIUM BRANDS

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## Our Main Site ... three Operations

TOURISM



COMMERCIAL



MANUFACTURING



**GLOBAL OPERATIONS**  
INDUSTRY LEADING DELIVERY OF PREMIUM BRANDS

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## Bacardi Corporation in Cataño is also...

Where 83% of Bacardi Rum sold globally is produced

The largest premium rum distillery in the world

The largest distillery for Bacardi

The second most visited attraction in San Juan

The spiritual home of Bacardi Rum



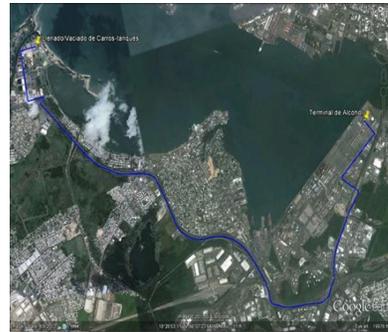
**GLOBAL OPERATIONS**  
INDUSTRY LEADING DELIVERY OF PREMIUM BRANDS

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## Main Campus ... 127 acres



## Outside our Main Campus



### Alcohol & Molasses Terminal

- ✓ 5 acres of land
- ✓ Built in 2009 (alcohol terminal) & 1989 (molasses terminal)
- ✓ Serving Carta Blanca for EMEA
- ✓ 13 MM liters total alcohol storage capacity
- ✓ 40 MM liters molasses storage capacity

10 kilometers away from main plant

## OUR VISION



Be the most reliable, **RELIABLE** and flexible organization achieving a **COMPETITIVE** level of **COMPETITIVE** and leadership based on **FLEXIBLE** **continuous improvement** in order to be the first option for the manufacturing of high distilled spirits.



**GLOBAL OPERATIONS**  
INDUSTRY LEADING DELIVERY OF PREMIUM BRANDS

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## Bulk Manufacturing



- Distillery
  - 45MM LPA
  - Redestilado
    - 5 Columns
  - Aguardiente
    - 1 Column
  - Utilities
- Aging
  - 480,000 barrels
- Blending
  - 60 MM LPA's (16.7 MM 9L Cs)
  - Serves NAM and EMEA



**GLOBAL OPERATIONS**  
INDUSTRY LEADING DELIVERY OF PREMIUM BRANDS

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8

## Our People...the hands behind our Rums



140 FTE in Manufacturing and Support  
Over 2,000 years of combined experience  
A Perfect Blend:  
[40% employees > 20 yrs with Bacardi](#)



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## Behind the curtain...



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**GLOBAL OPERATIONS**  
INDUSTRY LEADING DELIVERY OF PREMIUM BRANDS

## Lean & Continuous Improvement Initiative



**GLOBAL OPERATIONS**  
INDUSTRY LEADING DELIVERY OF PREMIUM BRANDS

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### OPERATIONS VISION



## Five ingredients of *The Perfect Serve* Our Strategic Pillars



**THE PERFECT PLANT**  
*Industry Leading Delivery of Premium Rums*



#### **Responsibility**

Deliver Industry leading sustainability



#### **People**

Create a great place to work with outstanding people delivering excellent results



#### **Operational Excellence**

Deliver E2E network of world class operations



#### **Innovation**

Create & implement ideas that drive outstanding growth



#### **Customer Focus**

Ensure Customer needs drive our strategies and actions

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## Behaviors Linked to Our Culture Pillars

### FEARLESS

Questions, challenges and innovates our business and ways of working.

- If it isn't broken, break it and make it better
- Challenge the status quo
- Think creatively
- Be willing to make mistakes and learn from them



### FOUNDERS

Thinks of the company as if their own and takes accountability for their work.

- Think, act and do it
- Do it now, because it matters
- Remember, this is YOUR company
- Persevere and finish what you start



### FAMILY

Treats others like family and acts like one team

- Do the right thing
- Treat others as you would have them treat you
- Act as one team
- Keep your promises



Create competitive advantage through operational excellence and being connected to our customers and suppliers enabling reliable product supply and cost leadership.



# Bacardi Operating System

**Defines the complete performance and enabling standards across the Bacardi end-to-end value chain**

**Timeline & Strategy**

Suppliers → Operations Centers (OCC) & Sites → Distribution → Retail

**Our Behaviours**

- Trust: Full commitment and accountability
- Customer: 134K and 80K+ customers
- Quality: 100% OCP score for Premium
- People: "Have Heart to Be"

**Our Ambitions**

- Responsibility to people and environment
- Safety: 0% lost time
- Quality: 100% OCP
- People: 100% OCP
- Cost: 100% OCP
- Working capital: 100% OCP

**Our Strategies**

- People: Create a great place to work with an excellent development program
- Responsibility: Deliver on our social and environmental commitments
- Customer Focus: Deliver on our customer needs and drive our strategic initiatives
- Innovation: Create & improve ideas that drive our strategic growth
- Operational Excellence: Drive the highest level of operational performance

**WHAT**

Standards of Achievement: Assessment framework defined on 4 levels across each of the 12 pillars

Standards of Operating: Full inventory of standards, templates, tools and methodologies for each of the 12 Pillars

**HOW**

Pillars of Operational Excellence:

- Leadership
- Safety, Health & Environment
- Quality
- Asset Care
- Maintenance Excellence
- Initiative Management
- Zero Loss
- Supply Network
- Education & Training
- Enterprise

Phase Assessment | Pillar Assessment | Health Check

Key Business Results	Definition	Measurement	Target	Current	Improvement	Owner	Update
Revenue	Revenue generated by the company	Revenue	100%	95%	5%	Finance	Q1 2024
Profit	Profit generated by the company	Profit	100%	90%	10%	Finance	Q1 2024
Customer Satisfaction	Customer satisfaction score	Customer Satisfaction	100%	95%	5%	Marketing	Q1 2024
Operational Excellence	Operational excellence score	Operational Excellence	100%	90%	10%	Operations	Q1 2024

Integrating process reliability from suppliers to customers... → ...to achieve value chain agility through balanced progression

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# Bacardi Operating System

The Bacardi Finance Way

Spirit for Life  
CARING TOGETHER

PROCURE-TO-PAY

GLOBAL QUALITY

QUALITY TRAINER

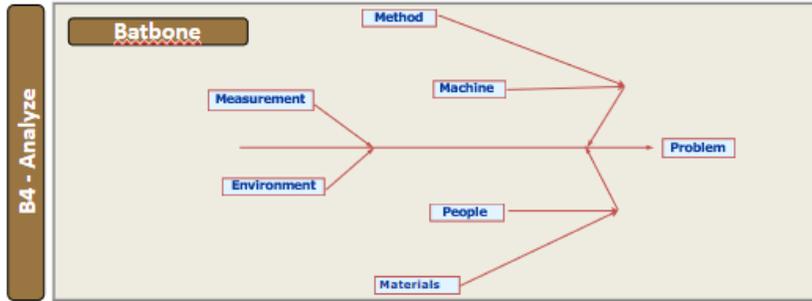
BECOMING BACARDI

introducing Program NOW

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# Bat Bone Diagram



# Bacardi Lean Manufacturing Strategy: From "Focus Groups" to "Self-Directed Teams"



# Self Directed Team

*A team that establishes priorities, coordinates and organizes activities with other teams.*



Our development into SDT's

**Objectives**

Provide guidance of **tools & processes** to promote a **reliable and continuous** improvement journey to **build a sustainable LEAN CULTURE...**

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**BACARDI**

**LEAN TRAINING CURRICULUM**

**GLOBAL OPERATIONS ACADEMY**

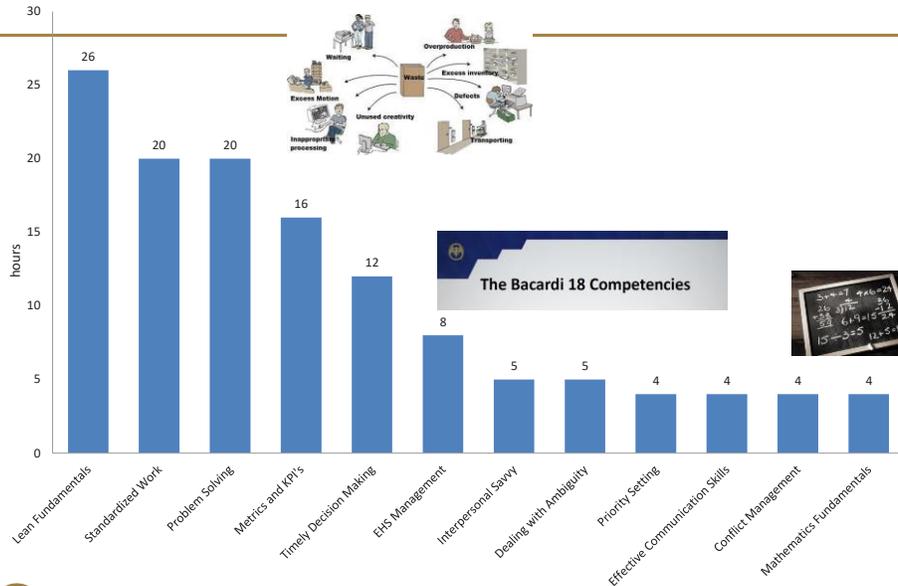
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- Global Course**  
A Global course is one where the training material and resources are the same for all GOPS locations and functions
- Local Course where available/applicable**  
A local course is where the content to be covered is already agreed globally but the execution of the training can be determined by the local/regional teams
- Harvard Manage Mentor**  
Harvard Manage Mentor courses are those available online via the ONE Bacardi website

- Lean Awareness
  - Value Stream Mapping
  - Change Management (optional)
  - Leading a Lean Transformation
  - Leading & Motivating (optional)
  - Engaging People
  - Bacardi Problem Solving Tool (B-PST)
  - SS + S
  - Visual Management
  - SMED
  - Applying Lean Solutions for Leaders
  - Building Kaizen Discipline
  - Facilitating Kaizen Event
  - Drive Performance Visual Mgmt
- 
- Building & Leading SDTs
  - Coaching (optional)
  - Coaching @ Bacardi
  - Directors/Managers Program Level 1
  - Supervisors / Leads Program Level 1
  - Manufacturing SDT Program Level 1
  - Maintenance SDT Program Level 1
  - Engineering, QEHS Program Level 1
  - Supply Chain Program Level 1
  - Procurement Program Level 1
  - HR / Finance Program Level 1
  - Gemba Walks
  - Project Management (optional)
  - Lean Six Sigma Programs
  - Process Assessment & Standardization
- 
- Improvement/Coaching Kata Awareness
  - Business Partnerships
  - Directors/Managers Program Level 2
  - Supervisors / Leads Program Level 2
  - Manufacturing SDT Program Level 2
  - Maintenance SDT Program Level 2
  - Engineering, QEHS Program Level 2
  - Supply Chain Program Level 2
  - Procurement Program Level 2
  - HR / Finance Program Level 2
  - Innovation and Creativity (optional)
  - Innovation Implementation (optional)
  - Theory of Constraints
- 
- Improvement/Coaching Kata
  - Directors/Managers Program Level 3
  - Supervisors / Leads Program Level 3
  - Manufacturing SDT Program Level 3
  - Maintenance SDT Program Level 3
  - Engineering, QEHS Program Level 3
  - Supply Chain Program Level 3
  - Procurement Program Level 3
  - HR / Finance Program Level 3
  - Strategic Thinking

# The SDT Curriculum



# Self Directed Teams (SDT)



## Our Master Plan

### Skills Development

Team Meetings

KPI's

5s

Problem Solving  
Tools

Lean Six Sigma  
Yellow Belts

### Execution

Autonomous  
Maintenance

Tasks Rotation

Multiple Skills



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## BIG Achievement .....

# 98%



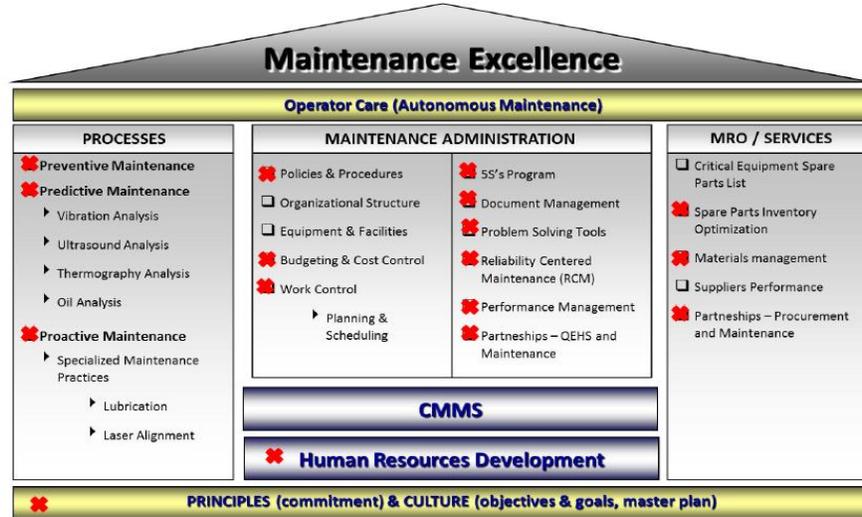
**Lean Six Sigma – Yellow Belt  
Certification by the Polytechnic  
University of Puerto Rico**



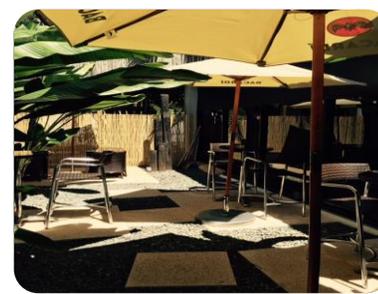
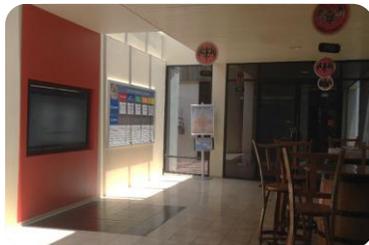
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# Engineering & Maintenance Department Self Directed Team (SDT) Approach



## Lean Hall: Recognition and Communication



# Engineering & Maintenance Department Self Directed Team (SDT) Approach

## ✓ 4 Value Stream Mappings Over 81 areas of Opportunities Identified



Safety Permit



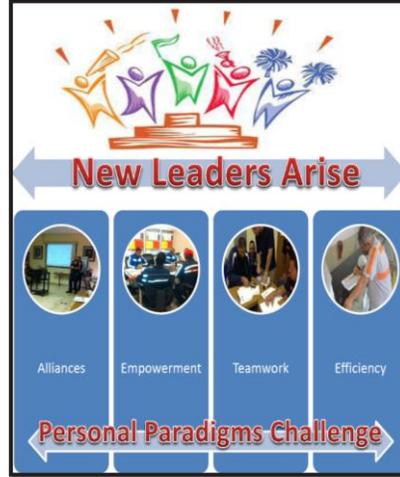
Work Orders



Procurement - MRO



MRO Processes



## What did we really achieve?



## SDT pathway to success ...

# 6,480 Hours

### Process/Aging SDT

Standardize the Physical Inventory using 5S

Obtain the Six Sigma Certification

### Engineering SDT

Standardize the daily Meeting with safety topics

### Process/Aging SDT

Reduction Waste of the Process  
Increase the OEE by 5%

### Engineering SDT

Implement Preventive Maintenance with GEMBA tool

### Distillery SDT

Reduction of 1.0 gallons Oil/PG

Cost reduction in Molasses in Propagation Process



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32

## Foundations for a Continuous Improvement Culture



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## Achievements of SDT's

Leaders have emerged from our processes.

Integration to the Planning and Maintenance Process.

Yellow Belt Certification by Universidad Polytechnic de PR.

Agility and Flexibility in Manufacturing operations.



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## Our Lean Fair

Promote the use of continuous improvement tools that support our vision of being the most reliable, competitive and flexible organization.

Provide a forum where SDT's can showcase the achievements and results of their projects and recognize the progress and contributions of the teams.

Create a competitive environment, sharing best practices (benchmarking) and do "networking".



We are the "Excellent Barrels" team of Process department.



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# Lean Fair



### 22 Projects

3 Bacardi Bottling  
2 Bacardi Mexico  
13 SDT's  
4 SixSigma

### Lean Fair Cup

SDT:Titanes Pioneros



### Invitational Award

Isaac Maldonado  
Bacardi México

### People Choice Award



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36



# Thanks



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# **Update on Labor & Employment Issues - 2019**

**Rick Alaniz  
Alaniz Law & Associates, PLLC.**

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# LABOR AND EMPLOYMENT UPDATE – 2019

## WHERE ARE WE? TRUMP ADMINISTRATION – THE FIRST 2-YEARS



Investment Casting  
Institute

2019 SPRING MANAGEMENT MEETING

PRESENTED BY: RICK ALANIZ

- 
- KEY FEDERAL AGENCIES CONTINUE TO FACE STALLED CONFIRMATION OF LEADERSHIP POSITIONS
  - ALMOST 40% OF POLICY MAKING POSITIONS ARE UNFILLED
  - LIMITS IMPLEMENTATION OF FEDERAL LABOR AND EMPLOYMENT POLICY CHANGES

**DEPARTMENT OF LABOR** – SEVERAL ASSISTANT SECRETARY AND ADMINISTRATOR APPOINTEES OF DIVISIONS STILL NOT IN PLACE

**EEOC** – LACKS GENERAL COUNSEL AND SUFFICIENT COMMISSIONERS TO HAVE A QUORUM

**NLRB** – CURRENTLY 3-1 REPUBLICAN MAJORITY WITH RECENT DEMOCRATIC APPOINTEE PENDING CONFIRMATION

- REGULATORY ACTIVITY AND ENFORCEMENT BY ALL FEDERAL AGENCIES CONTINUES, ESPECIALLY AGGRESSIVE AT REGIONAL OFFICES ON THE EAST AND WEST COASTS. THEY CONTINUE TO USE AN OBAMA-ERA APPROACH TO ENFORCEMENT-PUNITIVE ACTIONS AGAINST EMPLOYERS
- REDUCED ADVERSARIAL REGULATION, ALONG WITH TAX CUTS HAVE HELPED FUEL THE ECONOMY
- UNEMPLOYMENT IS APPROXIMATELY 4%, WITH 5.5% HISTORICALLY CONSIDERED “FULL-EMPLOYMENT”

## STATE AND LOCAL GOVERNMENTS HAVE BECOME MUCH MORE ACTIVE ON EMPLOYMENT REGULATION

- Minimum wage increases
- Paid time off
- Predictive scheduling – West Coast & East Coast
- Mandatory harassment training
- Marijuana legalization
- Sexual orientation / Gender Identity protection
- Independent contractor/Gig workers protections
- Prohibitions on non-disclosure agreements
- Limitations on use of criminal records
- Salary history bans
- 13 states and 11 cities have banned employers from asking about salary history
- 33 states and over 151 cities and counties have adopted “ban the box” laws

- 
- 7.3 MILLION JOB OPENINGS MAKES RECRUITMENT AND HIRING THE MAJOR CHALLENGE FOR MOST EMPLOYERS
  - DEMOCRAT-CONTROLLED HOUSE WILL PUSH THE LABOR AGENDA:
    - \$15.00 MINIMUM WAGE
    - PAID SICK LEAVE
    - ELIMINATION OF MANDATORY ARBITRATION OF EMPLOYMENT DISPUTES

- 
- EXPAND EMPLOYMENT RELATIONSHIP
    - JOINT EMPLOYERS
    - INDEPENDENT CONTRACTORS
    - “GIG” WORKERS
  - STRENGTHEN UNIONS
    - MEASURES TO HELP INCREASE MEMBERSHIP
    - REVIVE CARD CHECK
    - EFFORTS TO ROLL BACK JANUS DECISION

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## **IMMIGRATION RELATED MATTERS**



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### **ICE, I-9'S AND SS MISMATCH LETTERS**

- ICE conducted over 5,000 I-9 audits (NOI's) in 2018 – 4 times as many as in 2017
- Targeted raids focused on industries with large concentrations of immigrant employees – gardening/nursery, meat processing and construction
- Workplace enforcement likely to increase in all industries, including investment casting

## Social Security Administration will begin issuing mismatch letters again in 2019

- Further evidence of increased workplace enforcement
  - Practice ended in 2012 by Obama administration
  - Trigger employer obligations
  - Failure to resolve could result in charge of “knowingly” employing undocumented person
- What to do:
    - inform employee in writing and give opportunity to resolve the mismatch (90-120 days)
    - meet with employee to review accuracy of records (I-9, W-4, etc.)
    - refer to Social Security office if unable to resolve
    - terminate if unable to resolve after reasonable period (90-120 days)

## IMPORTANT TAKE AWAYS:

- Audit I-9's annually and correct errors
  - Eliminate I-9's no longer needed
    - must be retained for 3-years from date of hire or for 1-year from date of termination, whichever is later
    - retain for all current employees
  - Re-verify employees with expiring Employment Authorization Cards
  - Don't ignore Social Security mismatch letters

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## WAGE AND HOUR MATTERS



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### MINIMUM WAGE AND RELATED

- Most states well above federal minimum of \$7.25 and climbing
- Five states – California, Illinois, Massachusetts, New Jersey and New York as well as District of Columbia have adopted \$15.00 minimum wage. On March 20, 2019 Maryland passed a bill to adopt a \$15.00 rate
- \$15.00 minimum wage to be reached in stages from 2020 through 2025 for most states

- 
- Federal hike in minimum not likely before 2020 election but both Democrats and Republicans have introduced bills
  - After 2020, likely a staged increase, but dollar figure depends upon election results - \$15.00 minimum wage is central to Democratic Party platform – President Trump has mentioned a \$10.00 minimum wage
  - Probable change in “regular rate of pay” calculation to be more employer-friendly (rule change pending at OMB)



## **WHITE COLLAR EXEMPTION CHANGE – COMING SOON**

- Longstanding concerns that the annual salary amount of \$26,660 (\$455.00 per/week) is seriously outdated and must be increased was first addressed in 2016
- 2016 DOL proposal to more than double the amount to \$47,476 was blocked by court action
- New DOL proposal to raise the annual pay threshold to \$35,380 (\$679.00 per/week) is in the regulatory process
- Highly compensated employees threshold of \$100,000 to be raised to \$147,414

- 
- Likely to become law on January 1, 2020, but may be challenged legally
  - Now is the time to review job functions of all salaried employees for confirmation of qualification for exempt status – must satisfy both duties and salary tests
  - Employees that qualify as “executive”, “administrative”, “professional” including “computer professionals” or “outside sales” are exempt from overtime



## **Exemptions:**

- Executive – primary duties must be management of the enterprise or a customarily recognized department or subdivision thereof and direct work of at least 2 people (managers, supervisors)
- Administrative – primary duties must be office or non- manual work directly related to the management of the business; must also exercise direction and independent judgement on significant matters (Office manager, H.R. manager, Purchasing Agent)



- Outside Sales – primary duty must be making sales while regularly engaged away from the employer’s place of business

- Computer professionals – includes computer system analysts, software engineers and similar skilled persons; must receive salary of at least \$455 per week or be paid at least \$27.63 per hour

- Highly compensated employees – must be paid at least \$100,000 per year (may include commissions, non-discretionary bonuses) and must perform one or more executive, administrative, or professional duties



Employee misclassification is the largest source of wage and hour liability

- DOL collected a record \$300 million in 2018
- Liability for overtime pay can go back 3years
- Amount due can be doubled (liquidated damages)
- Employer pays employee’s attorney fees

\*\*\* Note: Inside sales people are not exempt and frequently misclassified

**BEFORE DECIDING TO MAKE A CHANGE FROM SALARIED TO HOURLY TO COMPLY WITH NEW THRESHOLD OR TO CORRECT A MISCLASSIFICATION CONSIDER THE FOLLOWING:**

- Number of hours affected employees routinely work per week (What is the overtime exposure?)
- Potential salary compression issues
- Impact on incentive or bonus arrangements

- Workplace morale and negative effects of change
  - likely be seen as a demotion to go from salaried to hourly
  - loss of unique benefits provided to salaried employees, e.g. schedule flexibility, enhanced health coverage, opportunities for promotion, etc.
- Is limiting overtime to reduce potential liability feasible?
- Is living with the potential liability preferable to negative impact on the workplace?

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# PAID LEAVE



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## PAID FAMILY LEAVE

- growing political support for paid family leave at federal level
- supported by Trump administration, at least in limited form (6-weeks leave)
- viewed favorably by several prominent Republican senators and several bills pending
- part of Democratic Party platform
- slight possibility of action on a measure, but rapidly diminishing
- 5 states – California, New Jersey, New York, Rhode Island and Washington provide paid family leave funded through employee payroll taxes
- Other states are considering paid family leave but awaiting possible federal action

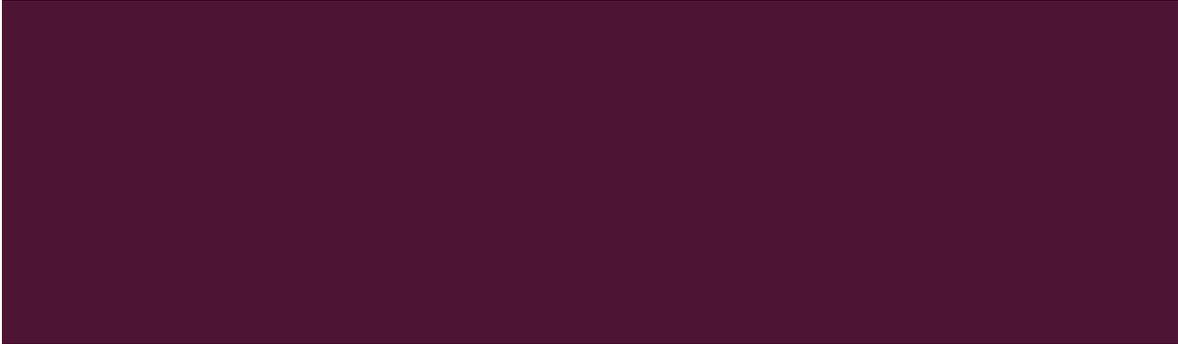
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## PAID SICK LEAVE

- 11 states have mandatory paid sick leave (CA, MA, CT, OR, VT, AZ, WA, RI, MD, NJ, and MI)
- 25 municipalities also adopted paid sick leave
- Illinois, Hawaii and Nevada next states likely to adopt
- Federal legislation routinely proposed but currently no chance of passage.

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## UNIONS AND NLRB



## NLRB – REVERSING RULES

- NLRB is still missing one Democratic appointee
- Republican majority since April 2018
- Decisions have reversed Obama Board decisions such as the “overwhelming community of interest” standard for challenging micro-units
- Issued memorandum setting more objective standards for evaluating workplace rules
- Joint employer rule remains in play with Board reviewing comments on proposed rule to reverse Browning-Ferris decision
- Overturned Obama-Board change to “independent contractor” definition
- Board has requested briefs from outside groups in pending case that could overrule Purple Communication decision giving employees access to employer’s email system for union and protected activity
- “quickie” election rules remain under review by General Counsel
- Change comes slowly because the Board is limited to addressing issues only as they arise in active cases before them
- Likely to continue to take more employer-friendly approach

## STATUS OF UNIONS

- private sector unionization currently at 6.4%
- down from approximately 27% in late 70’s
- fewer than 1,600 petitions for union elections filed with NLRB in 2018
- over 9,000 petitions filed annually in mid-to-late 70’s
- Janus decision by SCOTUS continues to reduce the numbers and power of public sector unions
- efforts in several Blue states to try to minimize the impact
- growing public support for unions due to perceived and actual income inequality has not yet reversed their steady decline



- Millennials, the largest generation now in the workforce, are the most supportive of unions – 68% view unions favorably based more on ideology than reality

- Unions turning to online organizing and digital marketing to appeal to today's workers but have had very limited success thus far

**- Take aways:**

- unions must organize new employers to survive but most campaigns are employee-initiated
- today's supervisors and managers have little or no experience in recognizing or responding to union activity
- lack of knowledge often results in conduct that creates NLRB issues
- consider a union avoidance program to help raise awareness



## **THE IMPAIRED WORKPLACE**

### **- OPIOIDS & MARIJUANA**





Marijuana legalization – both medical and recreational is spreading rapidly across the country and enjoys substantial public support

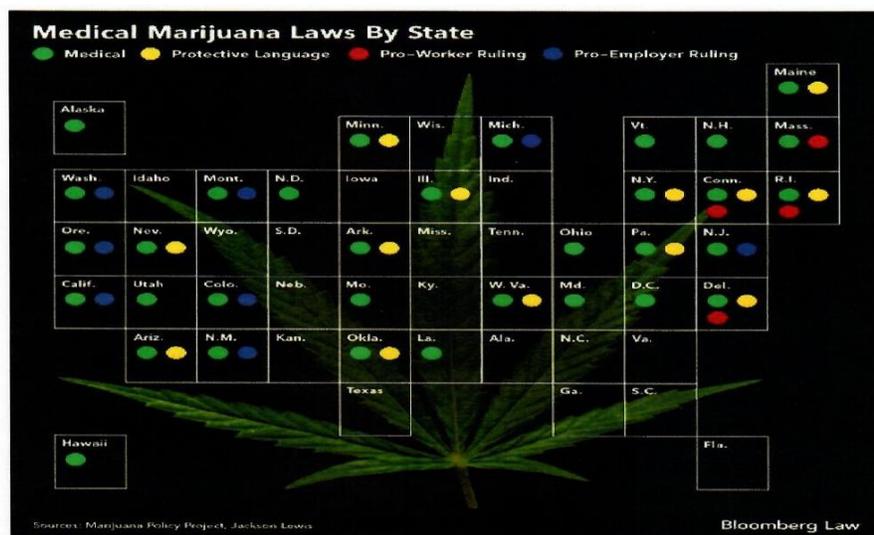
- law and public opinion have evolved
- 62% of Americans say cannabis should be legal
- in 2000 less than 30% favored legalization
- increasing number of states and cities reducing or eliminating criminal sanctions for possession and use

Medical marijuana

- 32 states and Washington, D.C. allow medical marijuana
- Several states now require coverage of medical marijuana for workers compensation

- 
- 13 states have anti-discrimination protections for registered medical marijuana patients, some include job protections
  - 4 states, have ruled that medical marijuana users may not be terminated for testing positive for cannabis metabolites (Connecticut, Delaware, Massachusetts, Rhode Island)
  - Massachusetts reliance on disability law could spread to other states
  - early approach focused on compassionate use for terminal patients

- today, laws permit cannabis prescriptions for managing symptoms and continue working
- patients aren't allowed to self-medicate on the job
- use of medical marijuana is not a "lawful activity" under federal law and preempts related state laws
- trend is clearly for greater employment protections for medical marijuana use
- employers still free to set up drug testing programs



## Recreational marijuana

- 10 states and Washington, D.C. have legalized recreational use of marijuana and 3 other actively considering it
- Employers may still enforce drug-free workplace policies, including termination for positive test results
- Pre-employment drug screens may make hiring difficult
- May want to consider eliminating pre-employment drug screening but retain others – reasonable suspicion, post-accident, and random (if permitted under state law)
- Assess potential exposure for negligent hiring claim from subsequent incident

## Proactive Actions

- train managers and supervisors annually on how to recognize impairment in the workplace
- consider training employees since they must work with potentially impaired employees and are first to know
- make clear to everyone that drug-free workplace policy will be strictly enforced irrespective of state laws on marijuana
- establish a relationship with a qualified medical resource to provide assistance, e.g. industrial medicine clinic

## Prescription Opioids

- One out of three persons has taken a prescription opioid in the last year
- Opioid abuse is an epidemic in the U.S.
- Both federal and state efforts to address the problem
- Over 1,500 lawsuits by cities and states against maker of OxyContin, Purdue Pharm – recent Oklahoma settlement for \$270,000,000
- Many employees, especially older, routinely use prescription opioids including while working
- “Impairment” difficult to prove and at times too late
- EEOC prohibits employers from requiring employees to report use of prescription opioids

- Denial of employment must be based on an “individualized medical assessment”
- May require reasonable accommodation and interactive process if disability-related
- May want to designate at least some jobs as “safety sensitive”, especially if potential impairment poses direct threat
- Best defenses: establish relationship with knowledgeable industrial medicine provider; consider denial of employment carefully; train supervisors on signs of impairment

## **SEXUAL HARASSMENT – THE #METOO EFFECT**

- If your company has not had to address a sexual harassment claim in the past 18 months consider yourself lucky
- EEOC has seen an unprecedented increase in sexual harassment charges
- Total monetary recovery for sexual harassment went from \$47.5 million in 2017 to over \$70 million in 2018
- More than 430 prominent persons have been charged with sexual harassment, involving over 1,700 separate allegations
- Employees much more willing to come forward than ever before
- Time magazine's Person of the Year in 2018 was the Silence Breakers

## **AMONG THOSE CHARGED WERE:**

**Harvey Weinstein – Hollywood  
Executive**

**Charlie Rose – Newscaster**

**Kevin Spacey – Actor**

**Mario Batali – Celebrity  
Chef/Restaurateur**

**Steve Wynn – Casino Executive**

**Al Franken – Senator**

**Matt Lauer – Newscaster**

**Les Moonves – CBS CEO**

**Andy Rubin – Tech Industry (Google)  
Executive**

**Bill O'Reilly – TV Personality**

**Travis Kalanick – Uber CEO**

**Bryan Singer – Hollywood  
Producer/Director**

**John Conyers – Congressman**

**Mike Isabella – Celebrity  
Chef/Restaurateur**

- 
- “Sexual harassment” is being redefined to include a broader range of conduct – objective standard vs. more subjective definition
  - Courts willing to limit the employer affirmative defense under Faragher/ Ellerth – was failure to report reasonable under the circumstances?
  - “Sexual assault” being used more frequently to refer to sexual harassment
  - Many states now mandate comprehensive policy with employee and supervisor training
  - However, a well written policy and training may not be enough

- 
- Experts say training ineffective in preventing harassment – few can identify as “victim” or “harasser”
  - Training identifies harassment and how to report it
  - Cultural change of the workplace is needed if sexual harassment is to be prevented
  - Change starts at the top-senior leadership must make preventing sexual harassment a priority
  - Staying silent implies that it is not important

## Everyone creates the workplace culture by daily interactions

- Bystander training – another tool for changing the culture and preventing workplace sexual harassment

- interactive, in-person consensus – building in small groups
- agreement on what behavior is offensive
- confirmation of expected treatment in the workplace
- interactive technique to address harassment

## Supreme Court Decisions

### Pending cases

- Fort Bend City vs. Davis
  - Whether Title VII pre-lawsuit administrative process is essential jurisdictional standard?
- Lamps Plus, Inc. vs. Varela
  - Whether a mandatory arbitration agreement that does not mention class or collective arbitration nevertheless apply to such claim?

## Potential cases

- R.G. & G.R. Harris Funeral Homes vs. EEOC
  - Whether Title VII protects transgender persons from discrimination?
- Altitude Express, Inc. vs. Zarda
  - Whether Title VII prohibits discrimination based upon sexual orientation?
- Patterson vs. Walgreens
  - What level of reasonable accommodations is required regarding religion?

## Bonus information:

According to Gallop

- 34% of U.S. workers are engaged in the workplace (enthusiastic and committed to their work and their employer);
- 13% are actively disengaged (would rather be almost anywhere else)
- 53% are not engaged (show up and do bare minimum to keep job and would leave for even a minor improvement)

Where does your workforce stand and what plans do you have to change it?

# **Raise Your Leadership Level to Rock Star**

**John DuBois  
Optimize, Inc.**



## Raise Your Leadership Level to Rockstar

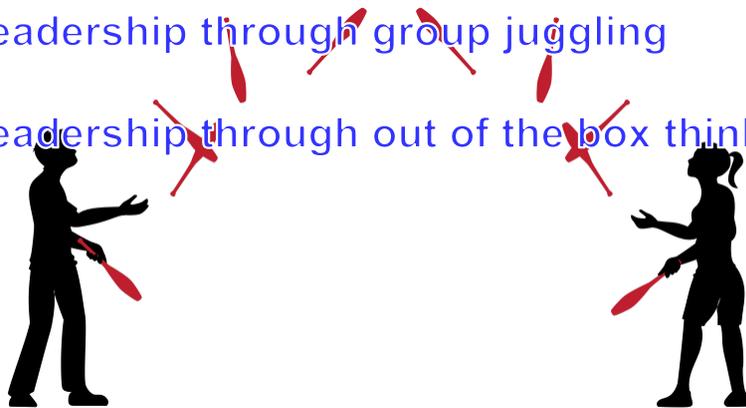


1

## Welcome, Introductions & Expectations

Leadership through group juggling

Leadership through out of the box thinking



2

## No surprises here

### The three Conditions of Rock Star

#### Leadership:

- Crafting a VISION
- Building ALIGNMENT
- Supporting EXECUTION

3

## Crafting the vision

It is not necessary to be a visionary to craft a vision

Develop big picture vision of the destination's end in order to create road map for the journey:

- What will it look like when we get there?
- How will we know we are in the right place?
- What is the next step to getting there?

Rock Star Leaders (RSL) do not answer these questions by themselves

- None of us is smarter than all of us
- Remain open to alternate ideas of success & seek council
- Releasing power makes leaders stronger, not weaker

4



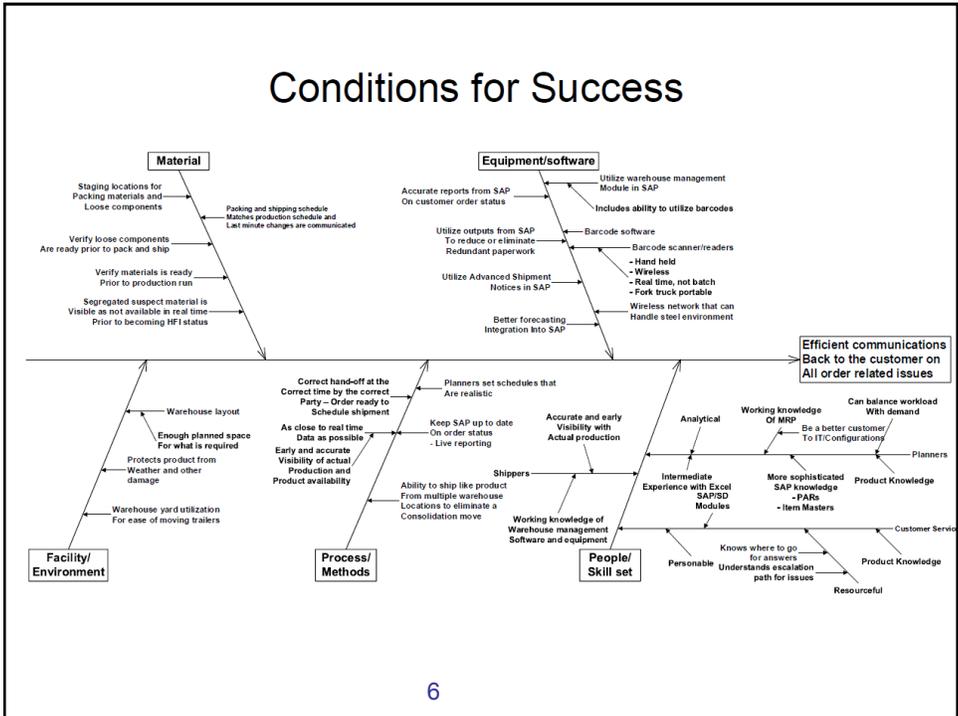

# Building Alignment

Alignment is a communication issue, RSLs structure clear messages by explaining their rational

The road map breaks the journey into manageable legs using land marks known to the team – exchanging perspective

- There is seldom a single solution to the big problems, or a single path to achieve the vision
- All legs of the journey contribute to reaching the destination, we just need to know how to finish this leg
- Some paths zig and zag but still contribute to reaching the destination

5



## Supporting Execution

Importance of making progress:

- Never underestimate the power of Momentum
  - Creates positive attitudes while warding off negativity
  - Brings tasks to completion quickly
  - Small quick wins add up to BIG IMPACT
- To keep momentum, RSL understand the need for rapid response to problems
  - Fix small problems while they are small
  - Create a system where your people feel they are heard
  - Embrace productive conflict & encourage innovative thinking

7



## Innovative Thinking

- “Never tell people how to do things. Tell them what to do and they will surprise you with their ingenuity.”
  - George S. Patton
- “Innovation comes from the producer, not from the customer.”
  - W. Edwards Deming



8

## Supporting Execution

Importance of making progress:

- Understand your baseline conditions
  - You may find out that you don't have the skill set on your team to successfully execute the plan
  - This requires you to add professional development of your team into the plan
- Keep track of your wins
  - Offer praise twice as often as corrective feedback
- Provide structure and don't assume the team members are communicating amongst themselves

9



## Fail Fast and Fail Early

“For better or worse, that is true with any new innovation, certainly any new technology innovation. There's many good things that come out of it, but also some bad things. All you can do is try to maximize the good stuff and minimize the bad stuff.” **-Steve Case**

10

## Supporting Execution

Importance of making progress:

- Keep the team focused on the next stop of the journey, not the final destination
  - You get paid for what you finish, not what you start
  - When you start too many initiatives, none get complete and momentum dies
- No team member is left behind, everyone participates, everyone is heard

11



## Final Thoughts

Rock Star Leaders Success depends upon:

- Vision that includes desire for change
- Being or is capable of becoming, a change agent
- A workforce that does not fear change
- At least a small set of official and un-official leaders

12

## Parting Question/Discussion

How will we know we have  
achieved Rock Star Leader  
Level??

13

Thank you for your  
participation

14

## Contact



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# **Global Market Outlook 2019**

**Ron Williams  
The Blayson Group Ltd.**

# Global Market Outlook 2019

Ron Williams  
The Blayson Group Ltd

ICI Spring Management Meeting  
Puerto Rico – May 2019



## Agenda

- World Investment Casting Sales 2018
- Sales by Region
- Market Sector Analysis
- Market Sector Review
- Industry Outlook 2019
- Summary

## Acknowledgements

The data used for this presentation has been provided by the following organisations, whose help and contribution is gratefully appreciated.

- ICI - Investment Casting Institute, USA
- EICF - European Investment Casters' Federation
- CMF - Cast Metals Federation, UK
- JFS - Japan Foundry Society
- CFA - China Foundry Association
- Other - Individual contributors

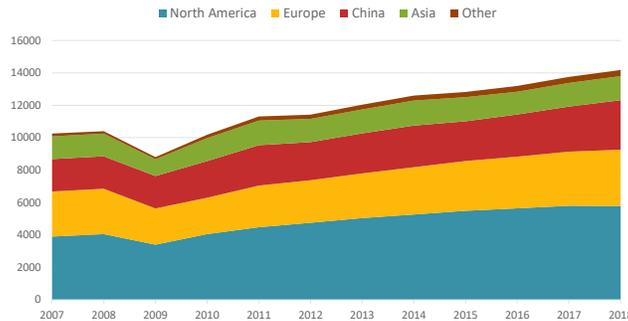
The information given is based on official figures together with best estimates where statistics are not available. No legal responsibility is accepted for information, advice given or opinions expressed.

## World Investment Casting Sales 2018

- Sales for the global investment casting industry in 2018 were US\$14.2 Billion
- This represents an increase of 3.1% compared to 2017
- Maintains a steady upward trend of total World investment casting sales
- These sales are currently driven by the continued high demand for High Added Value castings for the buoyant commercial aircraft market
- The global Industrial Gas Turbine market partially declined through the year
- Automotive and Other Markets experienced growth in some regions

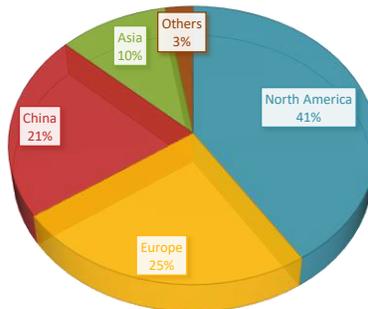
## World Investment Casting Sales (US\$M)

- Overall World investment casting sales in 2018 grew by 3.1%
- The graph demonstrates that the North American contribution to World sales was relatively unchanged from 2018 as were the Asian and Other Markets
- The increase in World sales was predominantly due to the European and Chinese market growth



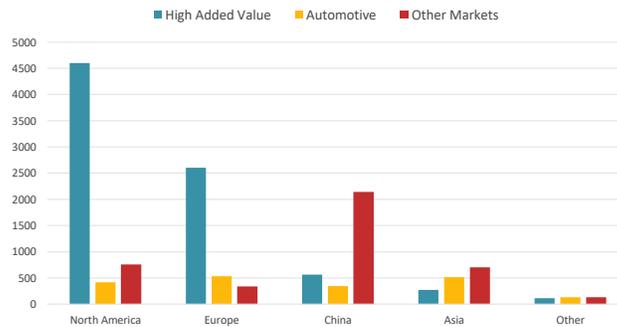
## Sales by Region 2018

- For 2018, North America contributes 41% of sales, Europe 25% of sales, China 21% of sales, Asia 10% of sales and Others 3% of sales
- The North American contribution to total sales decreased from 43% in 2017 largely due to the downturn in the IGT market



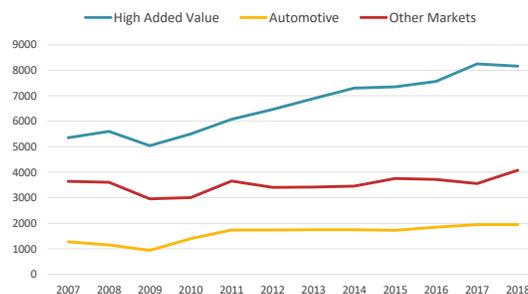
## Sectors by Region 2018

- Sales to sectors transcending the regions North America, Europe, China, Asia and Other Markets remain relatively unchanged from the previous year
- High Added Value casting production demonstrates its continued importance in North America and Europe

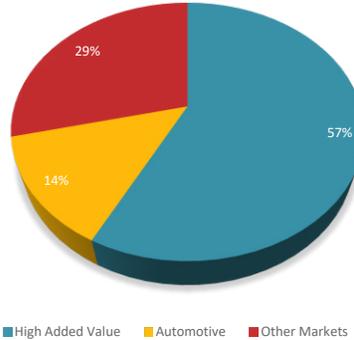


## Investment Casting Sector Sales (US\$M)

- The dominance of the High Added Value sector is illustrated
- The small decrease in the High Added Value sector is primarily due to the reduction in IGT investment casting sales, predominantly in the North American market
- The increase in the Other Markets sector sales is largely influenced by increased levels reported from China



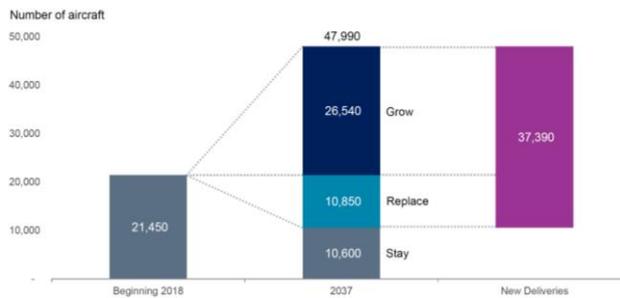
## Sector Share of Sales 2018



High Added Value casting sales accounted for around 57% of World investment casting sales in 2018 down from 59% in 2017.

## Aerospace Review 2018

- The commercial aircraft industry remained buoyant with a considerable order backlog for Boeing (5870) and Airbus (7390)
- China's import market for aircraft parts and components continued to grow in the same trend as in the previous year
- The world fleet is predicted to double over the next 20 years



Notes: Passenger aircraft (> 100 seats) (Jet freight aircraft (>10 tonnes). Rounded figures to the nearest 10  
\*Assuming same rate as 2018  
Source: Airbus O&M 2018

## Industrial Gas Turbines Review 2018

- Sales within the IGT sector reached a high level in 2017 with a 5% increase on 2016.
- The World market for Industrial Gas Turbines casting sales was slow during 2018
- Especially influenced by the North American lower sales levels

## Automotive and Other Markets Review 2018

### **Automotive**

- The overall World market for automotive was relatively flat
- The position is somewhat mixed across regions
- Notably the North American market was down
- The market in China showed significant growth
- The World turbocharger wheel market continued to grow through 2018

### **Other Markets**

- The World sales for the Other Markets sector has shown an increase
- This is largely due to the sales data reported from the Chinese market

## Industry Outlook 2019

- The overall World investment casting sales were expected to grow through 2019 in line with recent years
- The commercial aerospace industry remains buoyant and this is anticipated to continue in 2019
- The Industrial Gas Turbine market is expected to show growth in 2019, especially reported in the North American data, however sales are not expected to reach previous highs
- Previous forecasts from the automotive industry predicted continued growth in 2019, however we have now seen a downturn in the first quarter
- Other Markets are expected to remain at similar levels to 2018

## Summary

- The industry continued to develop in 2018
- Investment casting sales showed growth of almost 3.1%
- Market conditions are positive for the buoyant aerospace sector in 2019 and optimism remains in other sectors
- Opportunities for growth within the investment casting industry remain positive, however certain external factors could have an influence on the industry
- The ICI Spring Management Meeting provides an opportunity to assess the current position of the market

# Thank You

ICI Spring Management Meeting  
Puerto Rico – May 2019

**Blayson**

# **2019 European Investment Casting Market Review**

**Carlos Olabe**  
**European Investment Casters' Federation**

# European Investment Casting Market Review

Market Evolution & Trends

Year 2018



Carlos Olabe  
EICF Executive Director

# European Investment Casting Market Review

Study Content



- Study Introduction
- European Investment Casting Market Segments
- European Investment Casting Sales 2018
- Sales by Region
- Market Segment Analysis
- Market Segment Review
- 2019 Prospects
- Summary

- *The European Industry acting in the field of Investment casting is non related to any political institution but it corresponds to the geographical location where these companies carry out its activity within the different European countries*
- *The Study represent the volumes of sales produced by the European foundries and addressed to the different Market Segments analyzed, independently from the location of those Market and end users*

Market segments established are as per end user application

- ❑ High Added Value
  - Aerospace
  - Industrial Gas Turbine (IGT)
- ❑ Automotive
- ❑ Other applications



**High Added Value Components**  
Typically ... Aerospace and Energy components



**Automotive**  
Typically ... Automotive and engine parts



**General Engineering**  
Typically ... Different sort of mechanical solutions for different sectors including Nuclear, Defence, Electronics.



**Bio Medical**  
Typically ... Hip & Knee prosthesis solutions

EU Economic context 2018 - GDP growth

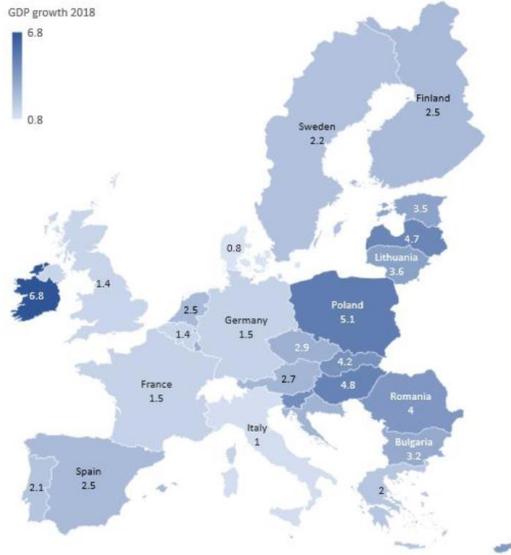


Table 1: European Economic Forecast – Winter 2019

EU FORECAST	2018	2019	2020
GDP GROWTH (% YOY)	1.9	1.5	1.7
INFLATION (% YOY)	1.9	1.6	1.8
UNEMPLOYMENT (%)	6.9	6.6	6.3

SOURCE: EUROPEAN COMMISSION, DG ECFIN



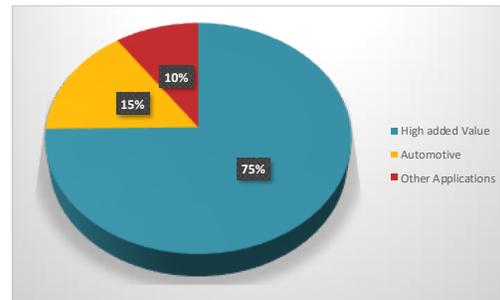
- ❑ The European Union [EU] economy grew 1.9 % percent year-on-year in 2018 (average figure)
- ❑ Investment casting is giving a strong performance in 2018 above GDP average values
- ❑ Investment Casting Market study shows a growth of 4.4 % over 2017
- ❑ Resulting in an estimated total sales value of USD 3.48 BILLION
- ❑ Most market segments are demonstrating good performance levels with the High Added Value segment particularly strong
- ❑ However IGT performance did follow the fall experimented in the 4th quarter of 2017 with no recovery in 2018.





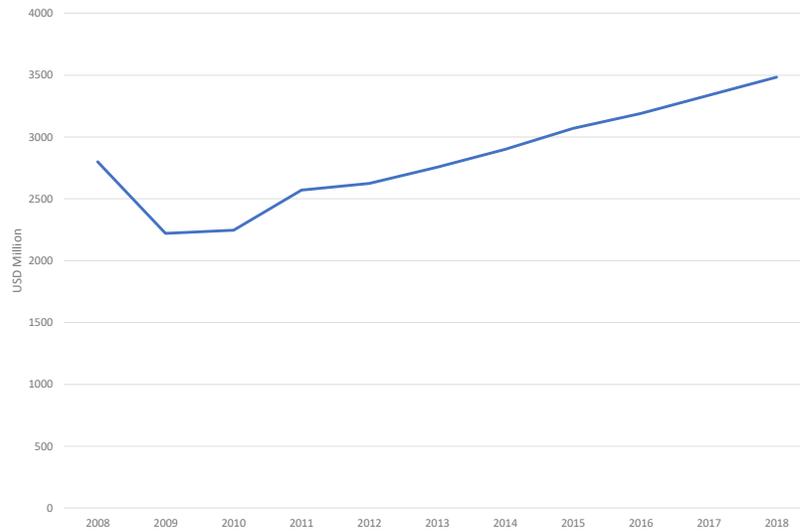
Volumes of sales produced by the European foundries

European Investment Casting Market Segments Output

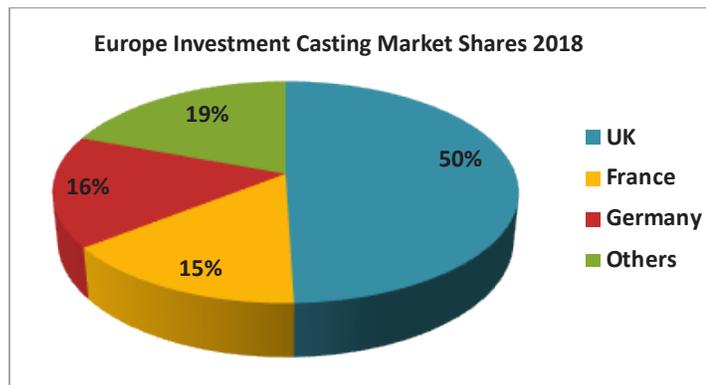


Volumes of sales produced by the European foundries

European Investment Casting Sales Trend



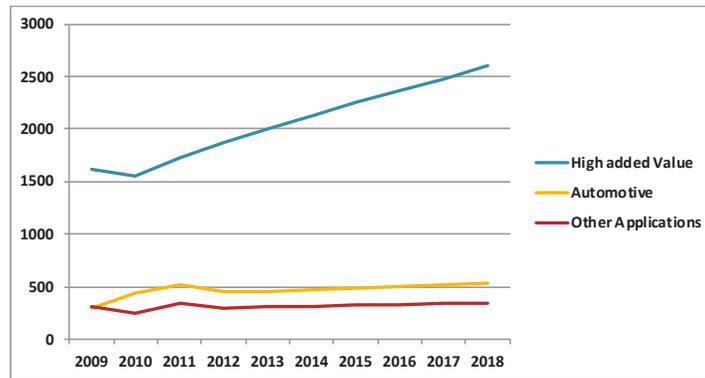
Europe Investment Casting Market Shares 2018



- ❑ Market shares in European investment casting remain unchanged vs previous studies, with the UK continuing at around 50% of sales
- ❑ Overall sales USD 3,484 Million

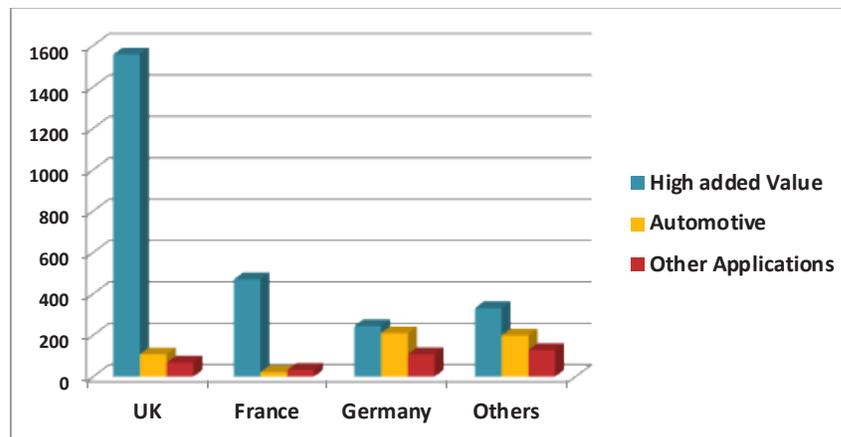


European Investment Casting Market Segment Trends



- ❑ The strong growth of the High Added Value sector continues based on Aerospace applications resulting in an average 5 % growth
- ❑ The automotive sector follows a steady growth in 2018 (3,6 %)
- ❑ Commercial casting sales showed slight improvement (1 %)

Europe Market Segments by Country 2018



High Added Value Segment

Aerospace

- Commercial aircraft environment remains very strong in 2018 with Boeing increasing new net orders market share over Airbus (893 vs 747)



\*Airbus figures include the addition of A220 programme coming from Bombardier



High Added Value Segment

Aerospace

- Commercial aircraft environment remains very strong in 2018 with Boeing increasing new orders market share over Airbus
- Airbus backlog at year end 2018 is 7,577 aircraft representing nearly 10 years of production at current pace
- Boeing & Airbus are driving **output increase programmes**, representing a **challenge for the supply chain**

AIRCRAFTS		2017	2018	2018 TARGET
BOEING	DELIVERIES	763	806	810
	NET ORDERS	912	893	
	BACKLOG	5864	5951	

AIRCRAFTS		2017	2018**	2018 TARGET
AIRBUS	DELIVERIES	718	800	775
	NET ORDERS	1109	747	
	BACKLOG	7265	7577	

\*\* Figure includes A220 under Bombardier



High Added Value Segment

Aerospace

Defence - PRODUCTION ENGINES



EUROJET  
EJ200



SAFRAN  
M88



EUROPROP  
TP400



VOLVO  
RM12

Defence - NEW DEVELOPMENT ENGINES



RR Tempest engine



Next-generation European fighter engine  
Safran-MTU

High Added Value Segment

IGT

- ❑ Sales of industrial gas turbines have fallen since last quarter of 2017, under pressure from low-cost renewable energy
- ❑ 2018 have not corrected the effect seen in 2017
- ❑ Manufacturers are battling to improve efficiency, to cut the cost of gas-fired power
- ❑ The world is switching to renewable energy. Gas might be needed as a backup fuel for generating electricity on renewables turndown, but other technologies are also considered.
- ❑ Opportunities for manufactures look at China switching from coal to much cleaner natural gas.
- ❑ Growth will depend in part on climate policies worldwide.

## Automotive

Automotive Market Segments

Passenger Cars



Commercial Vehicle



## Automotive

**Automotive Passenger Cars Registrations**

- ❑ EU car registrations remained stable (+0.1%) in 2018
- ❑ Although the 2018 increase is very modest, it still marks the fifth consecutive year of growth in car sales, with almost 15.2 million units registered in total across the European Union.
- ❑ After a robust first half of the year and a strong drop in the final quarter, full-year 2018 passenger car registrations in Europe totalled 18.1 million units, a level similar to 2017 figures.

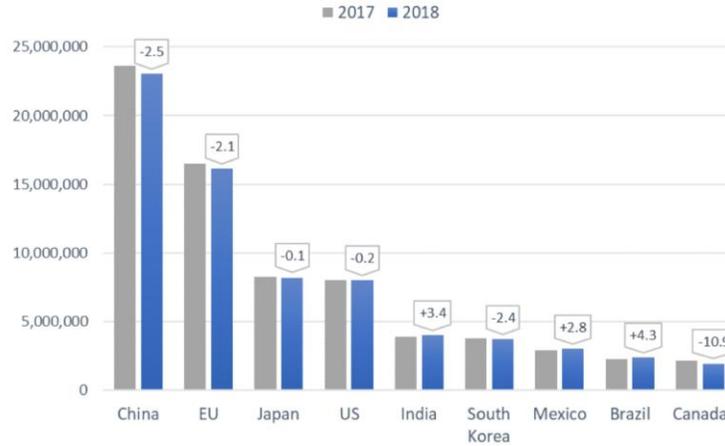
**Automotive Passenger Cars Production**

- ❑ In 2018, car production on the European continent decreased by 1.7% compared to the year before, as a result of slowing demand in some Western European countries and the United Kingdom in particular. Outside of the European Union, passenger car output fell in Turkey (-8.6%) and Ukraine (-15.3%) but maintained strong momentum in Russia(+14.0%) as domestic sales recovered there.

Automotive

Automotive Passenger Car World Production

Figure 5: Top 10 – World passenger car production



SOURCE: IHS MARKIT

Europe Investment Casting Market Review – 2018



Automotive

Automotive Passenger Car World Production

Table 5: World passenger car production

	2018 <sup>1)</sup>	2017	% change 18/17	% share 2018
<b>EUROPE</b>	<b>18,931,981</b>	<b>19,252,051</b>	<b>-1.7</b>	<b>24.0</b>
EU	16,146,681	16,493,027	-2.1	20.5
RUSSIA	1,531,853	1,343,750	+14.0	1.9
TURKEY	994,803	1,088,260	-8.6	1.3
UKRAINE	6,179	7,295	-15.3	0.02
OTHERS-EUROPE <sup>2)</sup>	252,465	319,719	-21.0	0.3
<b>NORTH AMERICA</b>	<b>12,959,641</b>	<b>13,126,914</b>	<b>-1.3</b>	<b>16.4</b>
of which the US	8,017,520	8,030,633	-0.2	10.2
<b>SOUTH AMERICA</b>	<b>2,734,747</b>	<b>2,630,978</b>	<b>+3.9</b>	<b>3.5</b>
of which Brazil	2,384,620	2,285,384	+4.3	3.0
<b>ASIA</b>	<b>42,219,304</b>	<b>42,705,914</b>	<b>-1.1</b>	<b>53.5</b>
CHINA	23,053,548	23,638,856	-2.5	29.2
JAPAN	8,208,105	8,218,436	-0.1	10.4
INDIA	4,014,292	3,881,491	+3.4	5.1
SOUTH KOREA	3,691,984	3,782,703	-2.4	4.7
INDONESIA	1,057,426	985,861	+7.3	1.3
THAILAND	1,036,538	966,444	+7.3	1.3
OTHERS-ASIA <sup>3)</sup>	1,157,411	1,232,123	-6.1	1.5
<b>MIDDLE EAST/AFRICA</b>	<b>2,094,262</b>	<b>2,168,949</b>	<b>-3.4</b>	<b>2.7</b>
of which Iran	1,237,622	1,391,462	-11.1	1.6
<b>WORLD</b>	<b>78,939,935</b>	<b>79,884,806</b>	<b>-1.2</b>	<b>100.0</b>

SOURCE: IHS MARKIT

Europe Investment Casting Market Review – 2018



## Automotive

### Automotive Commercial Vehicle Registrations

- ❑ In 2018, EU demand for commercial vehicles went up by 3.2% compared to 2017.
- ❑ 2.5 million commercial vehicles were registered across the European Union last year, the highest volume on record since 2007.

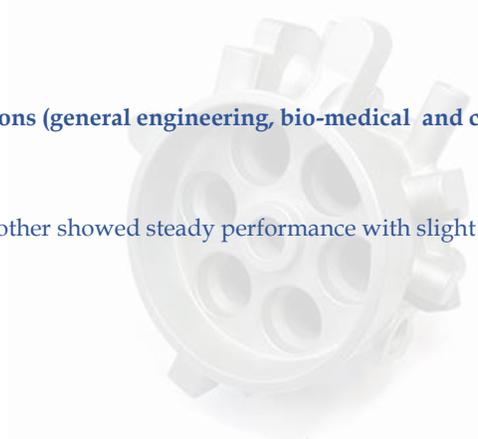
### Automotive Commercial Vehicle Production

- ❑ Total EU commercial vehicle output grew by 2.6% to reach 2.8 million units in 2018.
- ❑ Commercial vehicle production on the European continent totalled 3.6 million units in 2018, or +0.9% when compared to the year before. Among the main EU producers of commercial vehicles, output went up in France, Spain and Italy last year, but production remained stable in Germany and decreased in the United Kingdom.

## Other Applications

### Other applications (general engineering, bio-medical and commercial ... castings) Segment

The market for other showed steady performance with slight growth of 1 % for the year 2018



**High Added Value****Aerospace**

- ❑ Aerospace market will remain strong during 2019 with increasing demand on the supply chain to cope with the output targets planned by Boeing and Airbus
- ❑ The existing backlog of orders and the sustained net orders move provide confidence on a high and sustained demand of castings into this sector

**IGT**

- ❑ Realignment of strategies within the main manufacturers in combination with the increased use of renewables plus the climate policies have to redefine the sector
- ❑ It is not expected a recovery into the sector within 2019.
- ❑ Spares for the servicing market will continue to provide some steady demand

**Automotive****Automotive**

- ❑ Europe maintains its position as the world's second largest car producer, representing 24 % of global output.
- ❑ The demand for quality vehicles is predicted to remain stable with slightly growth over next years
- ❑ The impact of the evolution in Alternatively-powered vehicles (APV) car and mid term emissions policies is yet unknown to the Investment Casting industry

## Other Applications

## Other Applications

- ❑ Casting sales shall remain competitive with similar levels of demand and output in 2019
- ❑ Some reshoring activities are establishing a trend in products coming back to European foundries

- ❑ European investment casting has continued delivering a strong performance in 2018,
- ❑ European market configuration results in a 90% of product sales devoted to “High added Value” and “Automotive” Market segments. Being led by the strong European High Added Value segment supported in Aerospace application
- ❑ Automotive industry is very relevant in Europe and the IC market segment continues to be a very important segment with an steady/stable growth.
- ❑ Impact of Alternately-powered vehicles (APV) incorporation yet to be understood
- ❑ The energy source shift and climate policies is severely affecting the IGT sector.
- ❑ EU GDP growth is expected to slow to 1.5% in 2019, before rising slightly to 1.7% in 2020. Despite the expected slowdown in EU economic growth, the labour market outlook remains positive. The unemployment rate is projected to remain relatively low and job creation will continue although at slower rate as the economy will cool down. According to the Commission’s latest estimates, the EU unemployment rate is set to continue its downward trend from 6.9% last year to 6.3% in 2020.
- ❑ Good conditions for investment casting companies are anticipated

# European Investment Casting Market Review

Market Evolution & Trends

Year 2018



Carlos Olabe  
EICF Executive Director

# **Current Status of Japanese IC Market**

**Hiroshi Yokota – Japan Foundry Society  
Kazuyuko Okamoto – CASTEM Technology Inc.**

# Current status of Japanese IC market

@ICI 2019 Spring Management Meeting

May 7, 2019

Hiroshi Yokota



## Table of contents

**I Position of Japan in the world market**

**II Current status of Japanese IC market**

Chart ( Fig.1~Fig.10) Data Source: METI Production Statistics

**III Trend of Japan** ⇒ “ Japan Way ”

**IV Summary**

# I Position of Japan in the world market

memory of EICF-2018 Porto

## 1. Production Volume

- 443 Million USD 2016
- 3% of the world scale 30% of Asia (excluding China) (30% China + Asia / world)

- - - Desire to increase high added value castings - - -

## 2. Trend of Japan 2016

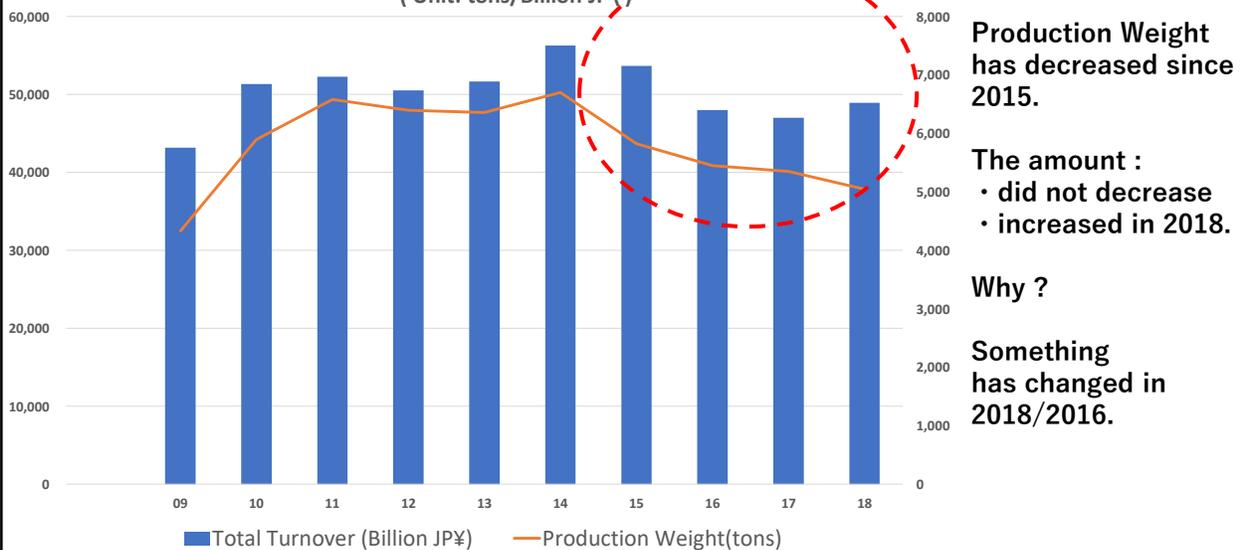
- 1) Recent 2 consecutive years decrease
- 2) Automotive : 48% (solid), Gas turbine : 30% (slowdown), Aerospace : 7% (stable)
- 3) Japan Way
  - In each domain, Pursuing development with difficulty level adapting to the market
  - Making steady improvements and suggestions for the Customer on a daily basis

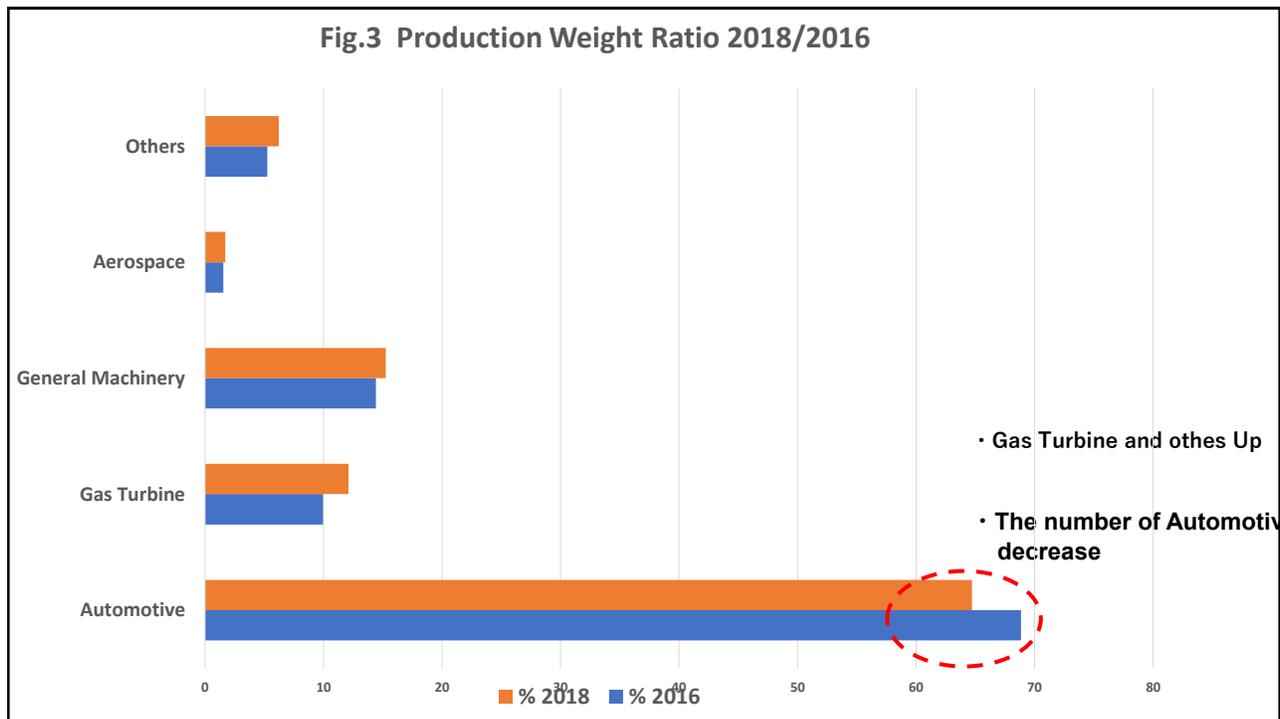
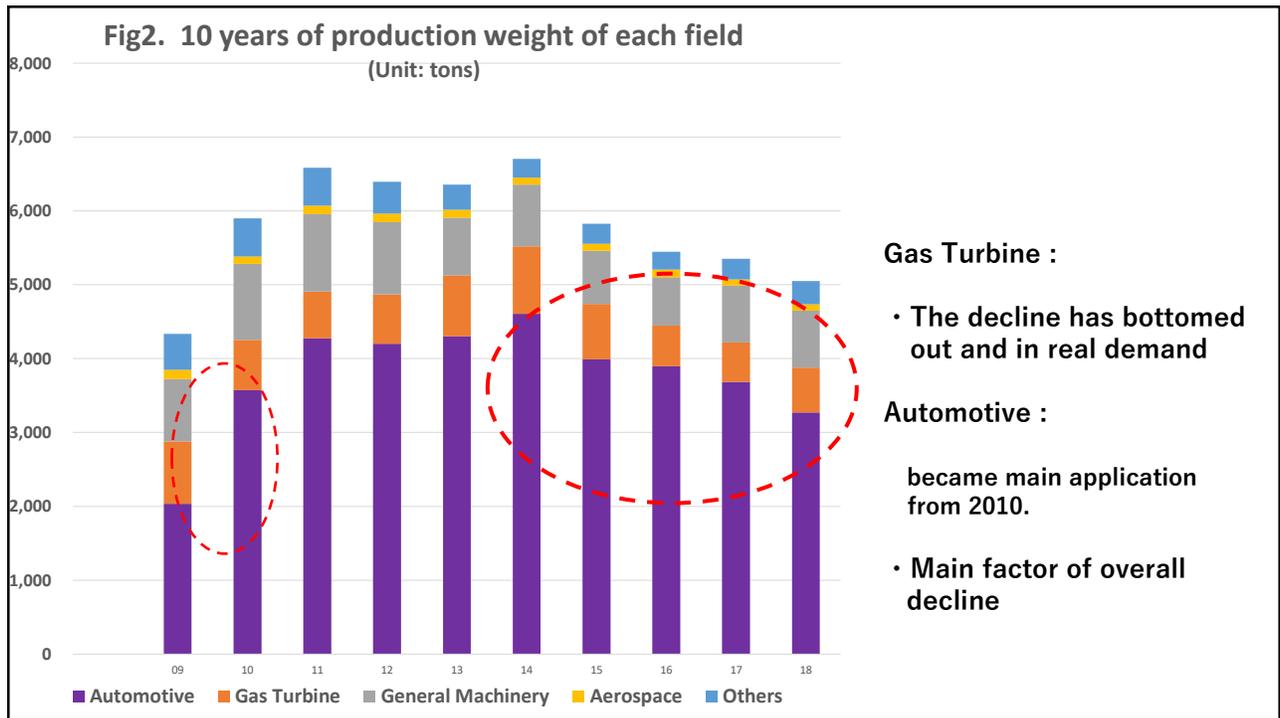
## 3. Mutual Cooperation !

- ICI , EICF and JFS
- WCIC-2020 Anaheim
- WCIC-2024 (Japan)
- ISIC-2019 Taichung(Nov.13-15), ISIC-2021 Japan

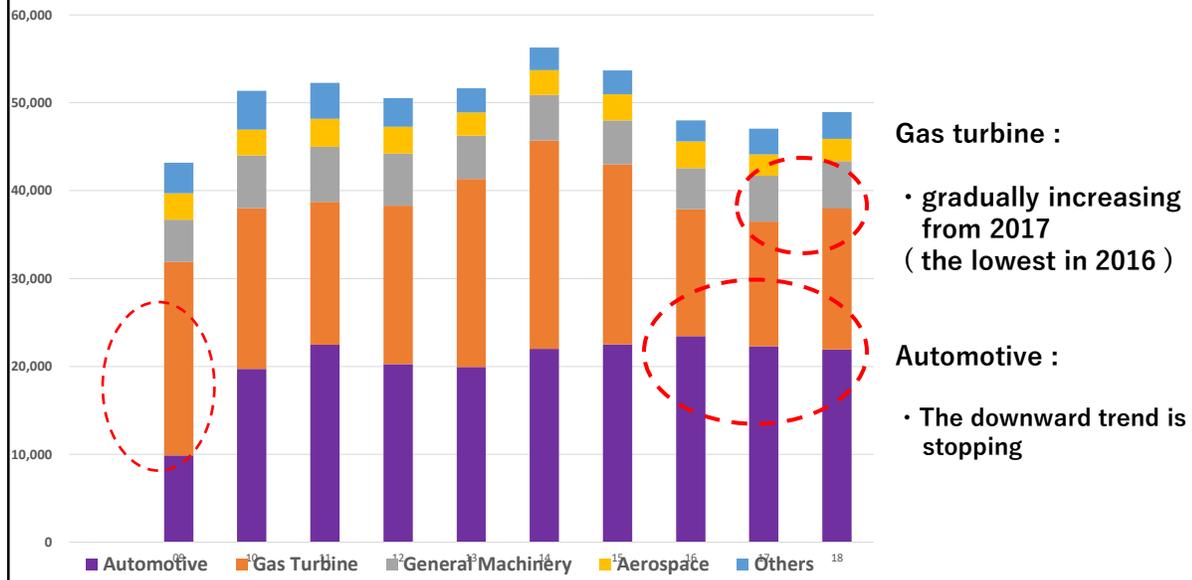
# II Current status of Japanese IC market

Fig1. 10 years of Production weight/ Sales amount  
( Unit: tons/Billion JP¥ )

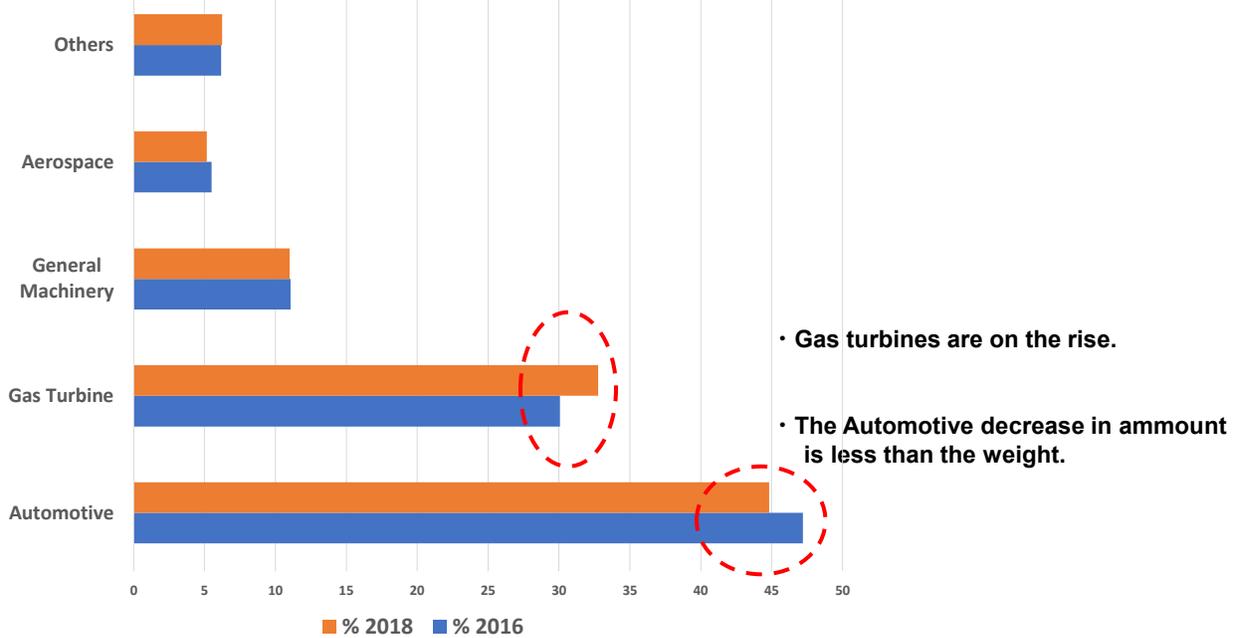




**Fig4. 10 years of production amount of each field (Unit: Billion JP¥)**



**Fig.5 Production Amount Ratio 2018/2016**



### III Trend of Japan

memory of EICF-2018 Porto

#### 2 approaches of Japan Way for Customers

##### 1. Fundamentals : KAIZEN and TEIAN All Foundries activities

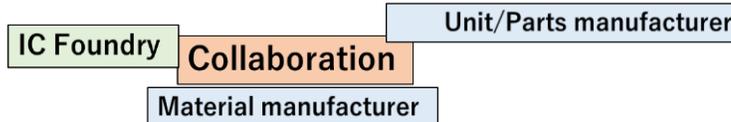
1. Daily improvement activities of quality and cost
2. Service spirit trying to provide initial substance sample as soon as possible

These Japan Way becomes possible with  
 “ Continuous improvement in technology and service “

##### 2. Joint Development : Extremely excellent elected Foundry activities

Automotive (turbine-wheel)      Gas Turbine      Aerospace Engine

The difficulty level of the solution, approach changes with domain



• Techniques and trends to be watched

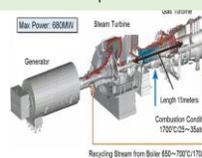
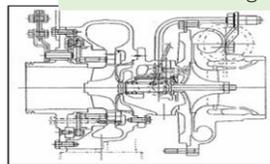
EV - shift    Renewable energy - shift    /    Carbon-based material    3DP parts

#### Common activities of Automotive and high value-added product domain

memory of EICF-2018 Porto

Automotive (turbine-wheel)      Gas Turbine      Aerospace Engine

Investment Casting sales symbolizes Japanese industrial structure



Competitiveness    • High power    • Environmental protection    • Economical    • Energy saving

• Requirements for castings

• Down-sizing    • Super precision    • Super heat resistance    • Weight saving    • Economical

Automotive (turbine-wheel)

Thin-walled and lightweight ultra-precision heat-resistant (over 1000 degrees) blade  
 Mass production technology is being developed

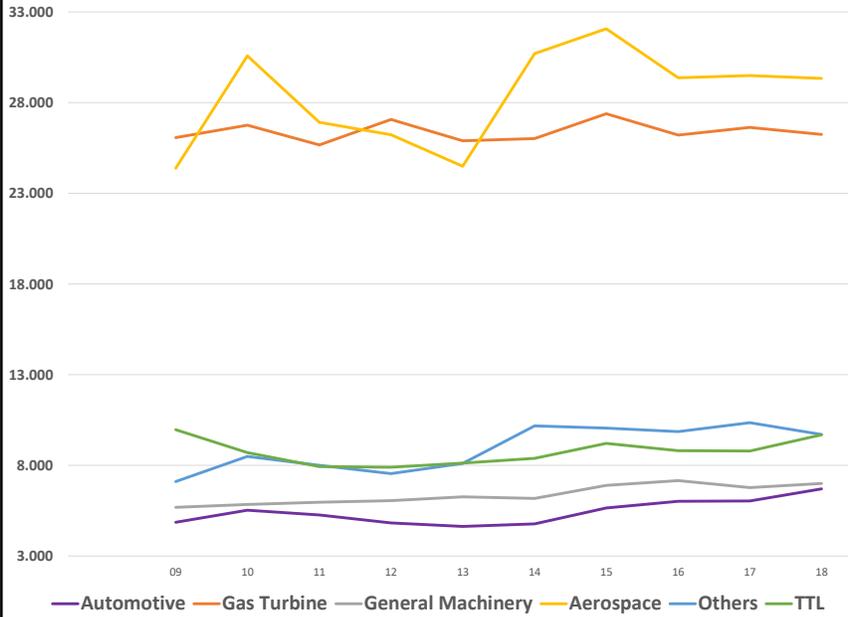
Gas Turbine

TIT 1700°C IGT are being developed by National Project

Aerospace Engine

Fuel economy and weight reduction are realized by utilizing investment casting technology.  
 Development as a Risk Share Partner

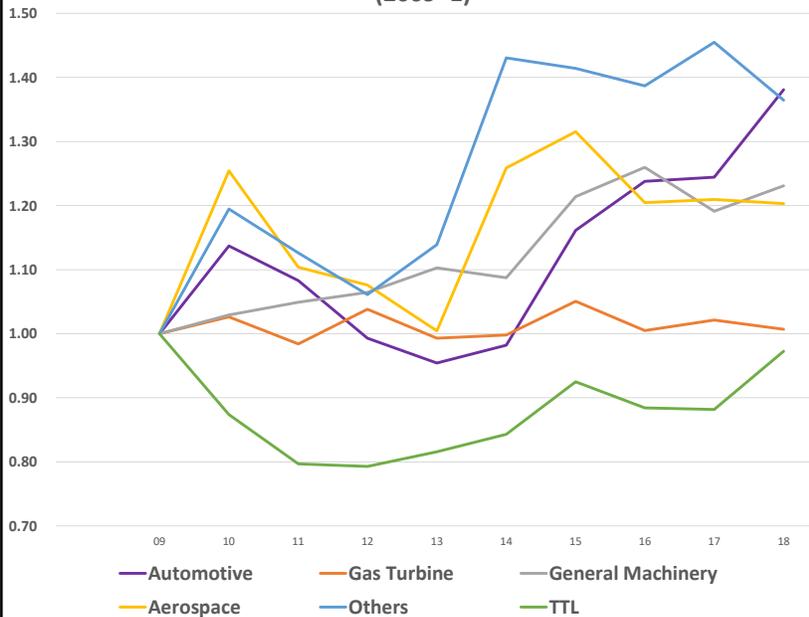
**Fig. 6 Trend of Unit price of each field**  
(Unit: ¥/g)



The average unit price (¥ / Kg) by application :

- Individual unit price rose, but the whole unit fell in 2010 when Automotive became the mainstay
- gradually decreased from 2010
- the lowest in 2012
- It is increasing gradually from 2013

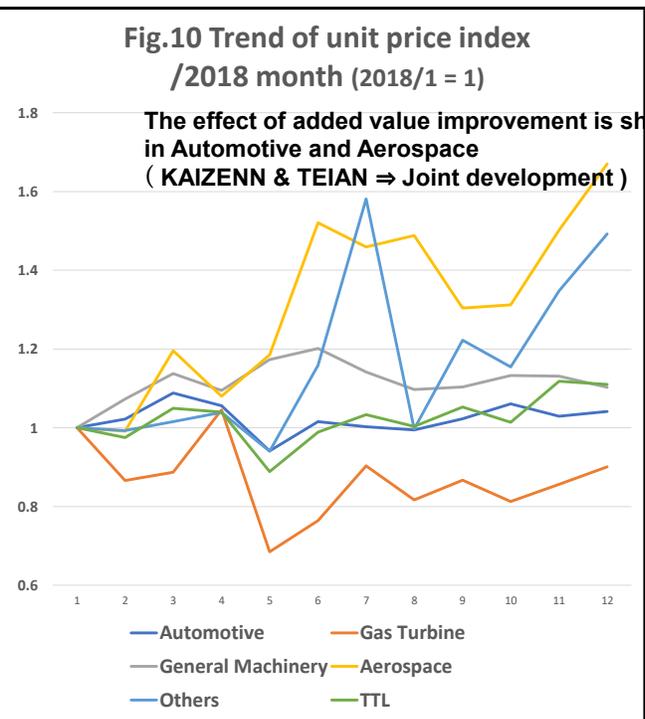
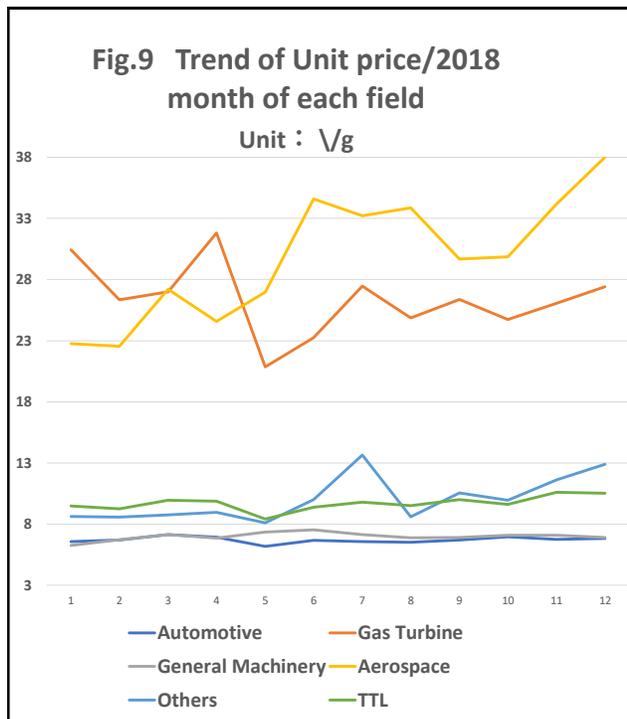
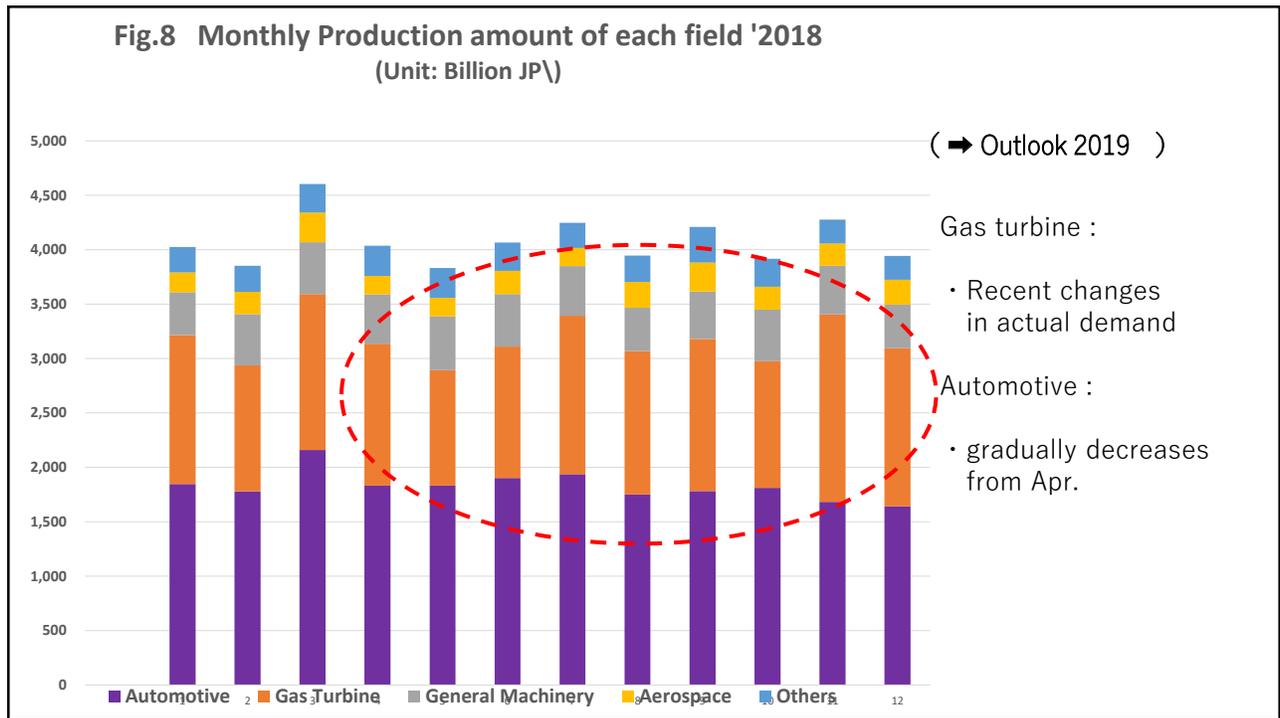
**Fig.7 Trend of unit price index**  
(2009=1)



The average unit price (¥ / Kg) : is clarified by index

- Added value tends to increase except for gas turbines
- This will be the result of Japan Way

( There was a great earthquake in March 2011 )



## IV Summary

( ➡ Outlook 2019)

1. Small market : 3% of world producti
2. Current status of Japanese IC market
  - 1) The Production weight has been decreasing little by little from 2014  
( ➡ There is no sign of recovery for 2019 )
  - 2) Production amount is gradually decreasing, increased in 2018
3. Trend of Japan ➡ “ Japan Way “ continuous KAIZEN asd TEIAN
  - 1) In each area, they are doing joint development to improve customer's competitiveness
  - 2) They are pursuing daily steady improvement activities throughout IC industry
  - 3) Statistical figures in 2018 are reflected as a result of those actions  
( ➡ I would like to expect this trend to overcome the difficulties of 2019 )
4. Mutual Cooperation !

We have just established IC planning committee for WCIC-Japan 2024

### The Roadmap of JFS for WCIC-2024



Dear Sirs (to Managements, Engineers and Assosiation officials)

Your cooperation is necessary for the success of the event in Japan.

We appreciate your support, Please.

**Thank you very much for your Attention.**

(Current status of Japanese IC market)

@ ICI-2019 Spring Management Meeting

May 7, 2019

Hiroshi Yokota

**CASTEM**  
TECH. LABS., INC.

 **JFSinc** 一般社団法人  
日本鑄造協会  
Japan Foundry Society, Inc.

# **2019 North American Market Outlook**

**Joseph E. Fritz  
Investment Casting Institute**



## **2019 Market Outlook**

**ICI Spring Management Meeting  
Rio Grande, Puerto Rico**

**Joseph E. Fritz**  
Executive Director  
Investment Casting Institute

Market Overview 1

## **2019 Market Outlook**



- This perspective of the investment casting industry is based on the collective input of ICI Members, government agencies, related trade associations, industry publications, customers and individual contributors.
- Sales numbers, market segment breakdown, and forecasts are 'Best Estimates'.
- Neither the Institute nor its officers accept any legal responsibility for information, advice given or opinions expressed.

Market Overview 2

## Investment Casting Trends – North America



- 2018 sales of investment castings produced in North America were relatively flat when compared with 2017's record high of \$5.8 Billion
- In general, most sectors performed well; IGT was the key exception, experiencing a 22% decline from 2017's already faltering market

### *Environment...*

- Feelings about the economy are good
- Aerospace continues to show growth
- Automotive is relatively flat but at record levels
- IGT decline expected to turn around

### *Industry Concerns...*

- Government regulation cost
- Affect of tariffs
- Healthcare insurance
- Finding, retaining & developing skilled labor

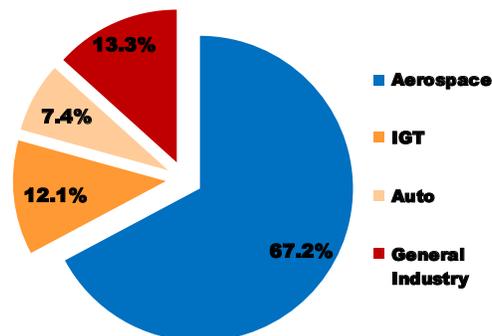
Market Overview 3

## North American Investment Casting 2018 Sales by Sector (\$ Billion)



Aerospace/Defense	3.90
IGT	0.70
Automotive	0.43
General Industry	0.77

**TOTAL: \$ 5.80 Billion**



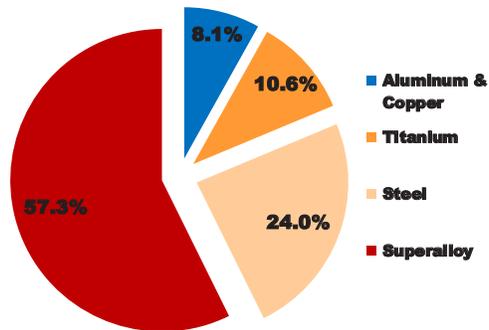
Market Overview 4

## North American Investment Casting 2018 Sales by Alloy Type (\$ Billion)



Superalloy	3.32
Steel	1.39
Titanium	0.62
Aluminum & Copper	0.47

**TOTAL: \$ 5.8 Billion**



Market Overview 5

## Market Segments



- Aerospace & Defense
- Industrial Gas Turbines
- Automotive
- General Industry

Market Overview 6

## Aerospace and Defense Outlook



- 2018 North American investment casting sales for the Aerospace and Defense sector are estimated at \$3.90 billion
  - This represents a 4.6% increase over the prior year
  
- The outlook for this sector in 2019 is strong
  - North American Aerospace and Defense investment casting sales are anticipated to near \$4.1 billion
  - This represents 4.4% growth over 2018

Market Overview 7

## Commercial Aerospace Market Factors



- A market correction is anticipated around 2020-2022
  - Load factor of 82 will be maintained during correction
    - Fleet capacity will keep pace with demand
  - CAGR for Forecast years (2019-2021) at 4.5%, with most of that growth occurring this year
  
- In spite of anticipated correction, the backlog continues to grow
  - Wide body airframes largely unaffected
  - Narrow bodies to bear the brunt
  - Regional jets in recovery from 2017-2018 market correction
    - 13.8% CAGR for forecast years
  - Engine deliveries to hit record level in 2019 at just over 4100
    - Will remain relatively flat through correction

Market Overview 8

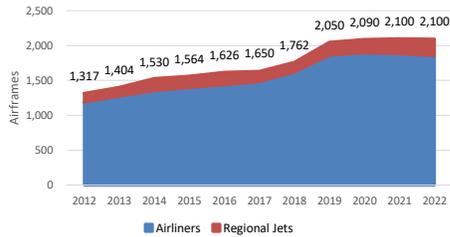
## Commercial Airframe Deliveries



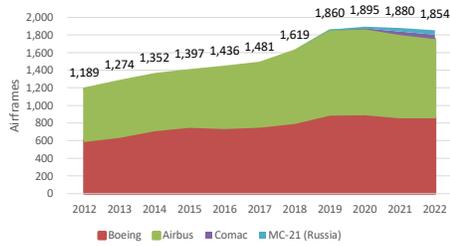
### Compounded Annual Growth Rates

	2012-18	2018-19	2019-22
Commercial Jet	5.0%	18.3%	0.8%
Airliners	5.3%	14.9%	-0.1%
Regional Jets	1.9%	32.9%	8.1%

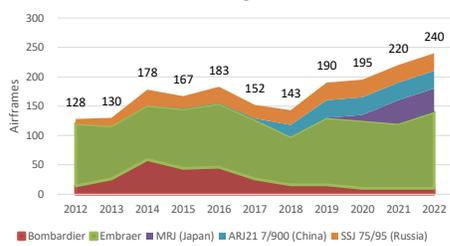
### Commercial Jet Deliveries



### Deliveries - Airliners



### Deliveries - Regional Jets

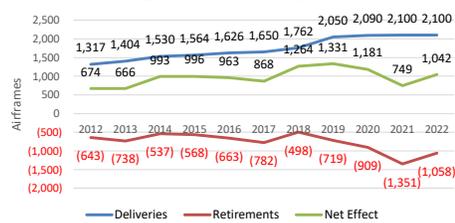


Market Overview 9

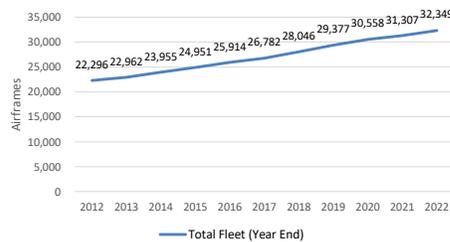
## Commercial Aircraft Air Traffic



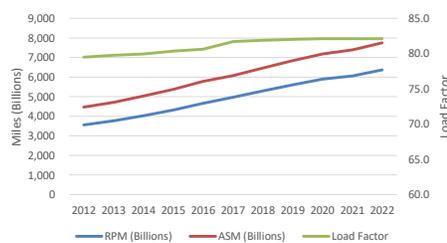
### Deliveries vs. Retirements Net Effect on Commercial Fleet



### Commercial Fleet



### Air Traffic

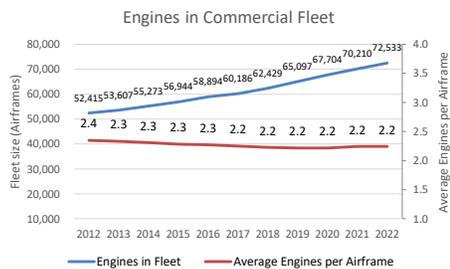
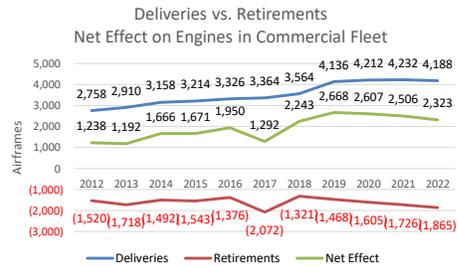
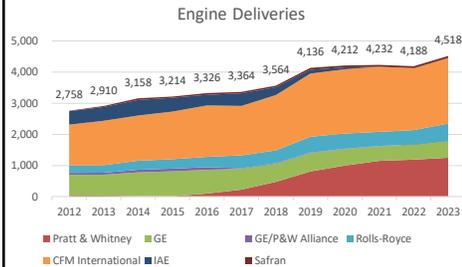


### Compounded Annual Growth Rates

	2012-18	2018-19	2019-22
Fleet	3.9%	4.7%	3.3%
RPM	6.9%	6.0%	4.3%
ASM	6.3%	5.9%	4.3%
Retirements	-4.2%	44.4%	13.7%

Market Overview 10

## Commercial Aircraft Air Traffic



**Compounded Annual Growth Rates**

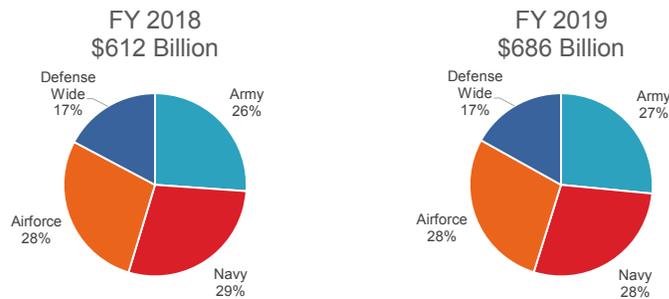
	2012-18	2018-19	2019-22
Engines in Fleet	3.0%	4.3%	3.7%
Engine Deliveries	4.4%	16.0%	0.4%
Engine Retirements	-2.3%	11.1%	8.3%

## Defense



- **Procurement on the rise**
  - **FY2019 procurement represents a 12% increase over FY2018 budgeted procurement**
  - **FY2019 Budget includes \$69 Billion in Overseas Contingency Operations (OCO) funding vs. FY2018 with only \$10 Billion in OCO**
  - **Nearly all key procurement programs using investment castings have increased in the FY19 Procurement Budget**
  - **No significant decline on any program**

## Defense Procurement Breakdown by Service



FY2019 procurement represents a 12% increase over FY2018 budgeted procurement

FY2019 Budget includes \$69 Billion in Overseas Contingency Operations (OCO) funding vs. FY2018 with only \$10 Billion in OCO

Analysis Based on Published Reports from Airline Monitor Speed News / Boeing / Airbus / Public Record

Market Overview 13

## Defense Procurement FY19 Modernization Objectives



- ↑ 77 F-35 Lightning (JSF)
  - ↑ 10 P-8 Maritime Patrol Aircraft
  - 15 KC-46 Tankers
  - ↑ B-21 Long Range Strike Bomber development
  - ↑ 24 F/A 18 Hornets
  - ↑ 2 C-40 Clipper Military Transports
  - ↑ 8 CH-53K King Stallion heavy lift helicopters
  - ↓ 60 AH-64E Apache helicopters
  - ↑ 7 MV-22 Osprey tilt-rotor helicopters
  - ↑ \$2.1 Billion in spares and repair parts (increased funding)
  - ↓ 4 E-2D Hawkeye early warning aircraft
  - ↑ 25 AH-1Z utility helicopters
  - ↗ 10 Ships (3 DDG, 1 LCS, 2 SSN 774, 1 ESB, 1 T-ATS, 2 T-AO)
- ↑ Higher than 2018 Budget
  - ↗ Higher than 2018 Budget & ongoing
  - Same level as 2018 Budget
  - ↓ Reduced from 2018 Budget

Market Overview 14

## Industrial Gas Turbine Outlook



- 2018 North American investment casting sales for the Industrial Gas Turbine sector are estimated at \$0.7 billion, a 22% decrease from the prior year and a 30% decline from 2016
- In late Q3 2019, manufacturers are expected to have depleted inventories, and orders will be on the rise
- Aftermarket is still strong and showing growth
- New programs on the horizon focus on mid-sized turbines rated at about 15 MW
- Overall it is anticipated that the industry will recover a third of the ground lost since the 2016 high, resulting in approximately \$0.8 Billion in 2019 North American investment casting sales

Market Overview 15

## Automotive 2018 Performance



- 2018 North American investment casting sales for the Automotive sector are estimated at \$0.43 billion.
  - This is relatively flat from the prior year with changes in product mix
  - Passenger Cars still on slide with SUV and Light Truck sales showing growth
- Manufacturers realized sales of 17.3 million passenger vehicles, exceeding 17 million for the fourth consecutive year
  - Off by 12%, 5.4 Million passenger cars produced last year
  - Light truck production grew 7.7% to 11.9 Million
- Tax reform was the key market driver, followed by favorable fuel prices and low interest financing

Market Overview 16

## Automotive 2019 Outlook



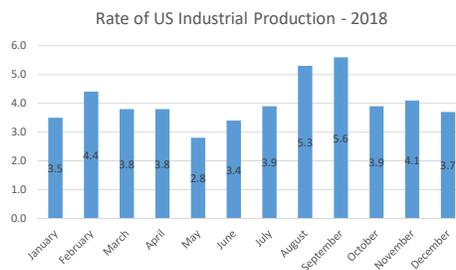
- Sales are expected to be relatively strong in early 2019
  - Aided by cheap gasoline, low unemployment and positive economic factors
- Moderate decline expected in second half of the year
  - Stymied by rising interest rates and transaction prices
  - Tariffs and retaliatory action pose other concerns
- Most analysts are predicting a 2-3% market decline in 2019, which is expected to result in an investment sales of \$0.42 Billion

Market Overview 17

## General Industry



- Overall market sector generally tracks to the US rate of industrial production, which was 4.0%, though subsectors may vary



- Member survey data indicates
  - Overall, 2018 General Industry sales grew by 4.1%
  - 2019 sales expected to growth 2-3%

Market Overview 18

## North American Investment Casting Select Market Trend Summary



	2018	2019
Aerospace/Defense	↑ 5%	↑ 4%
IGT	↓ -22%	↑ 14%
Automotive	↔ 1%	↓ 2%
Oil & Gas	↑ 17%	↑ 6%
Agriculture	↑ 15%	↑ 8%
Construction Machinery	↑ 17%	↑ 8%
Recreational Firearms	↑ 1%	↔ 0%
Heavy Trucks	↑ 16%	↑ 10%
Industrial Machinery	↔ 4%	↑ 3%
Orthopedic Implants	↑ 7%	↑ 6%
Medical Devices	↑ 6%	↑ 5%
Pumps & Valves	↑ 4%	↑ 4%
Beverage & Food Processing	↑ 3%	↑ 2%

Market Overview 19

## North American Investment Casting 2017 Sales and 2019 Forecast (\$ Billion)



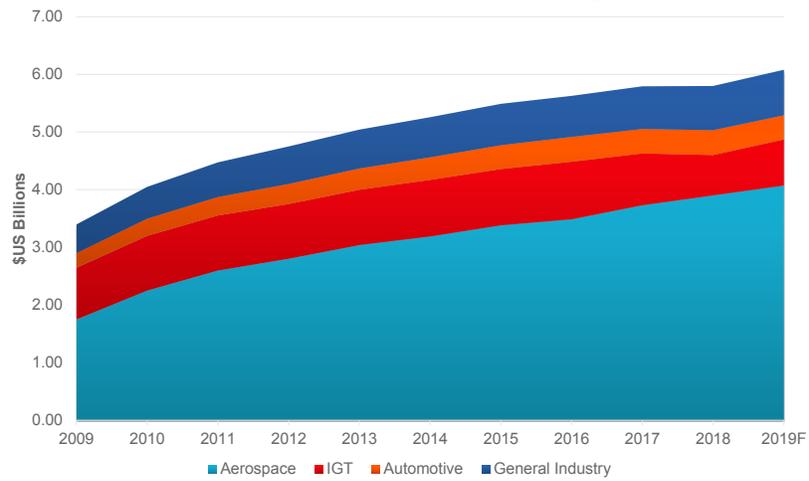
	2018	2019F
Aerospace	3.90	4.07
IGT	0.70	0.80
Automotive	0.43	0.42
General Industry	0.77	0.79
	<b>\$ 5.80B</b>	<b>\$ 6.08B (4.8%)</b>

Market Overview 20

## NA Investment Casting History



### North American Investment Casting Sales



Thank you!



# **How to Keep Your Talent from Becoming Theirs**

**Lisa Ryan  
Grategy**



GRATEGY



## **Manufacturing Engagement: How to Attract & Retain Top Talent**

**TRUST** – Set the foundation with open and honest communication. Do what you say. Be transparent. Communicate Openly. Accept feedback. Don't make your engagement efforts another "flavor of the month." Don't ask questions you don't really want the answer to.

**HELP Employees Grow** - Be proactive. Ask the employee where they want to go in their career. Invest in training. Hire more slowly, fire more quickly. Would you rather invest in your employees and have them potentially leave, or NOT invest in them – and have them stay?

**APPLAUD Efforts.** Catch your team doing things right. 6:1 positivity ratio. Say 'thank you' early and often. Use surveys to uncover preferences. Be consistent. Be sincere. Recognize employees in the way they want to be acknowledged. Give positive feedback immediately – don't wait!

**NAVIGATE Work/Life Integration.** Be a role model for self-care. Bring on the fun! Fair doesn't always mean equal, look at individual situations. Reduce stress levels with 4-7-8 breathing and Super Hero pose. Gratitude practices – journal, WINS, "5 Thank You's a Day"

**KNOW your staff.** Show interest. Pay attention. Treat staff in the way THEY like to be treated. "Two Truths and a Lie" as an icebreaker. Personality assessments help employees understand each other better.

**SERVE.** - Pitch in. Create opportunities to volunteer. Focus on the greater mission. How does your organization make a difference? Share your mission and values with the team.

***When you tell someone you appreciate them, you create a memory.  
When you write it down, you create a treasure. Lisa Ryan***

Lisa Ryan, Chief Appreciation Strategist, Grategy

www.grategy.com  
3222 Perl Ct.

216-225-8027  
North Royalton, OH

lisa@grategy.com  
44133

# **7 Growth Killers (And How To Stop Them)**

**Tim Kinney  
Kinney Strategy**



1. What are the 7 growth killers?
2. Some tools to help stop them



## Management Gap

```

graph TD
    A((Filled)) --- B((Open))
    A --- C((Filled))
    B --- D((Filled))
    B --- E((Filled))
    C --- F((Open))
  
```

1



## Video Production Company

- Partner buyout
- Key player resignation
- One partner left to do everything

5

Working in, not  
on  
your business

- *Busy, busy*
- *Constant meetings*
- *Huge to-do lists*
- *Putting out fires*

2





Personal Lines Insurance Agency

- Profitable, stable
- Limited growth
- Autopilot

7

Sales and marketing are not aligned

- *Opposing goals*
- *Fumbled hand-offs*
- *Fuzzy lead qualification*

3



8

## Outsourced Clinical Staffing Co. ]



Sales team focused on short-term conversion



Marketing focused on long-term nurture content



Marketing-qualified tradeshow leads lost

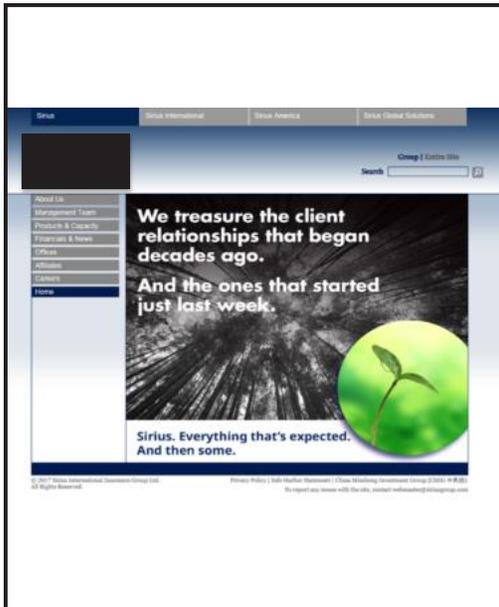


## Decision by tradition

*"That's the way we've always done it."*

4





**Specialty Reinsurance Company**

- Single channel distribution
- No brand awareness outside of key markets
- Outdated web presence

Strategic deficiency

*"We want to grow but don't know how."*

5



12



## [ Advertising Agency ]

- 🔔 Excellent marketing capabilities
- 🔔 Sparse new commercial accounts
- 🔔 Scattered, reactive business development initiatives

Tactical  
deficiency

*You know how  
to grow, but  
don't have the  
tools to do it.  
(time, talent, treasure)*





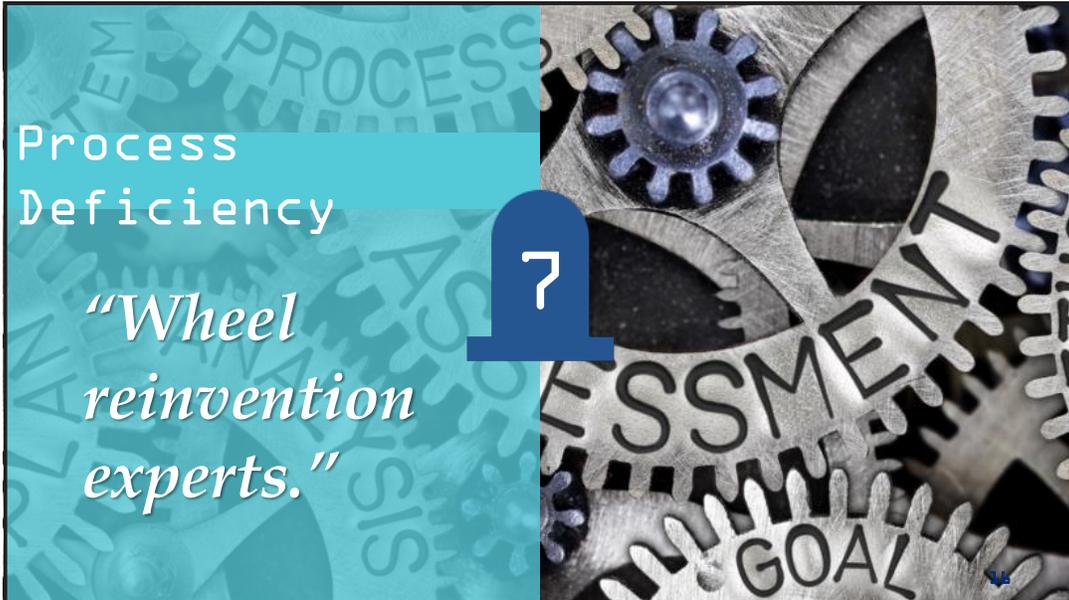
## [ Aerospace & Defense Supplier ]

-  Strong lead generation
-  No lead nurture tools
-  Overwhelmed, small sales team

Process  
Deficiency

*“Wheel  
reinvention  
experts.”*

7





## [ Regional Credit Union ]

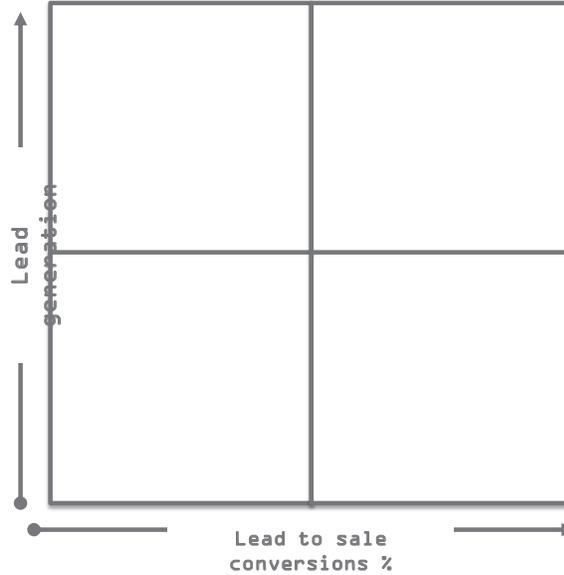
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-  Negative new account growth
-  Solid strategy, planning
-  No digital to account conversion capability

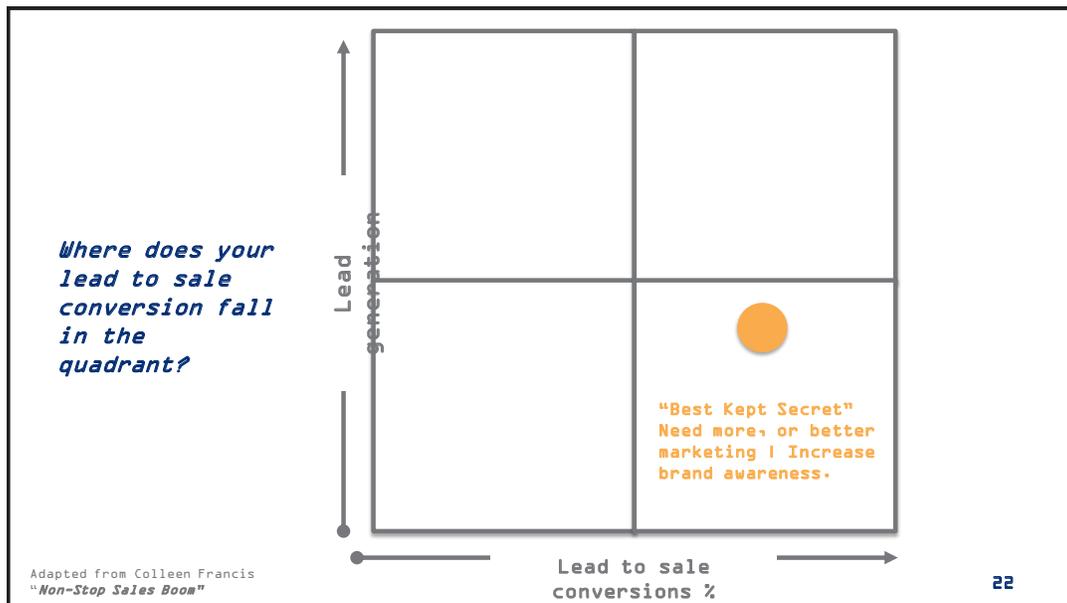
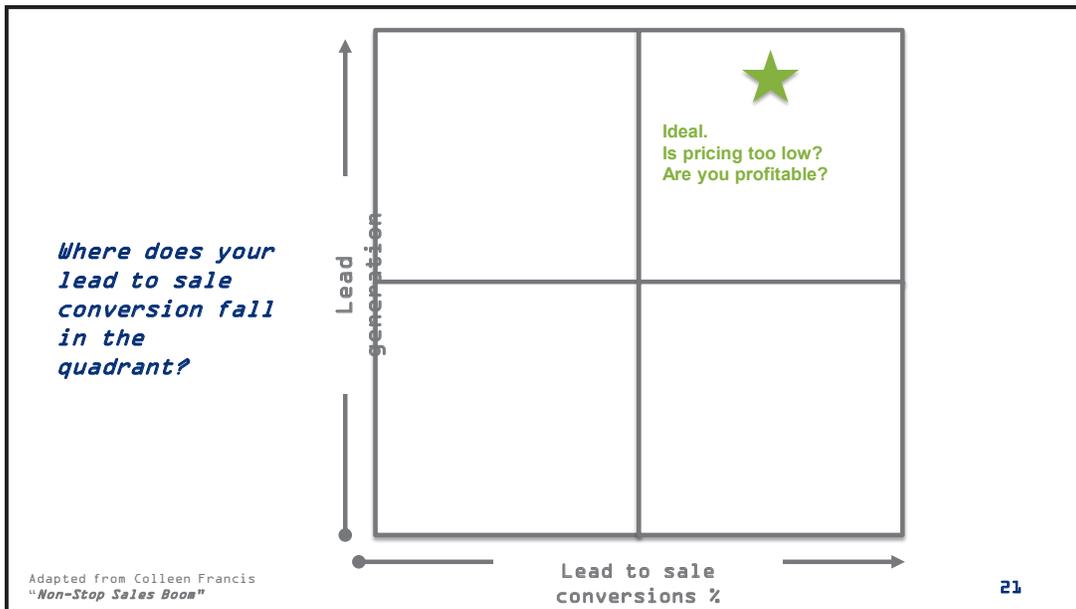
So, how do you stop the growth killers?

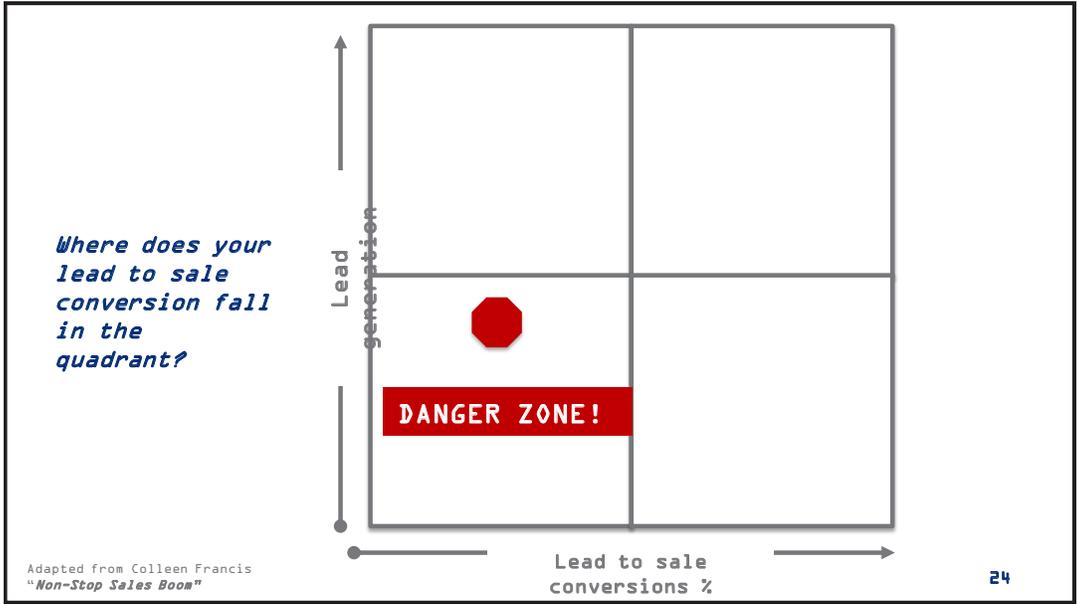
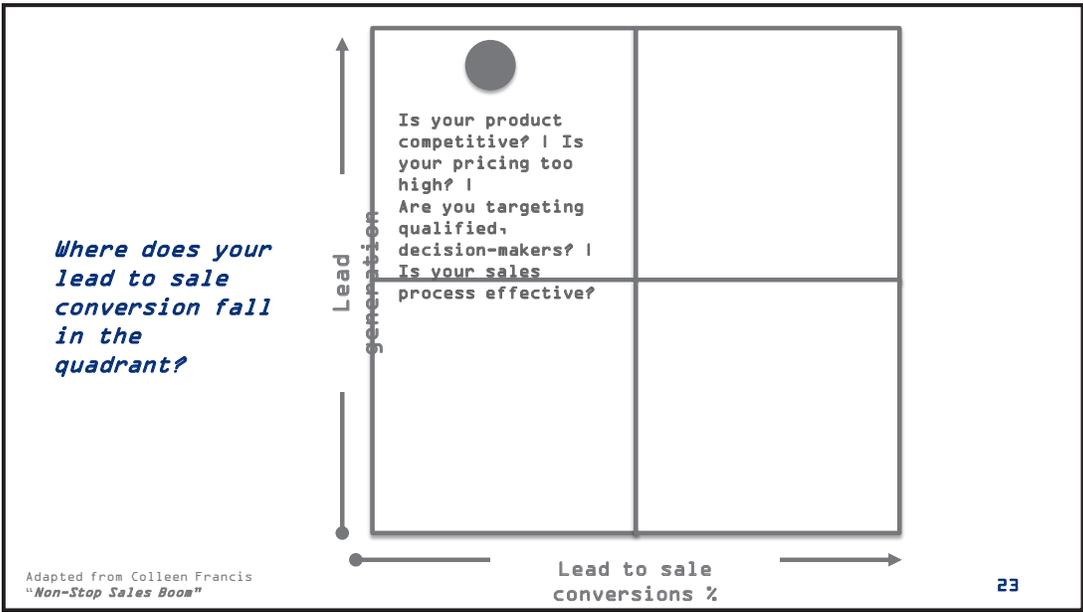
1. Evaluate where you are.

*Where does your  
lead to sale  
conversion fall  
in the  
quadrant?*

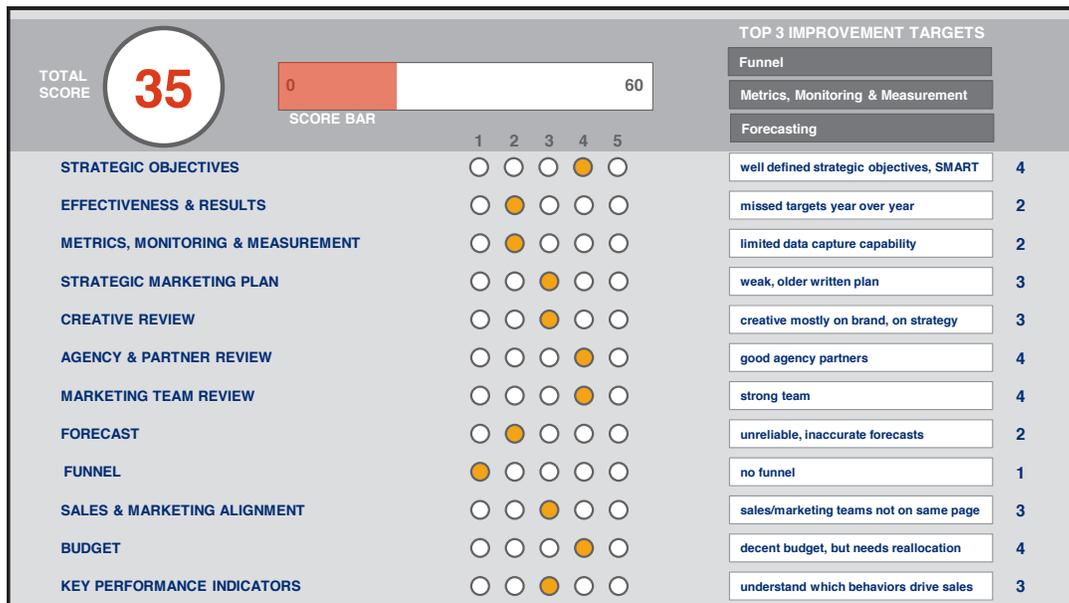
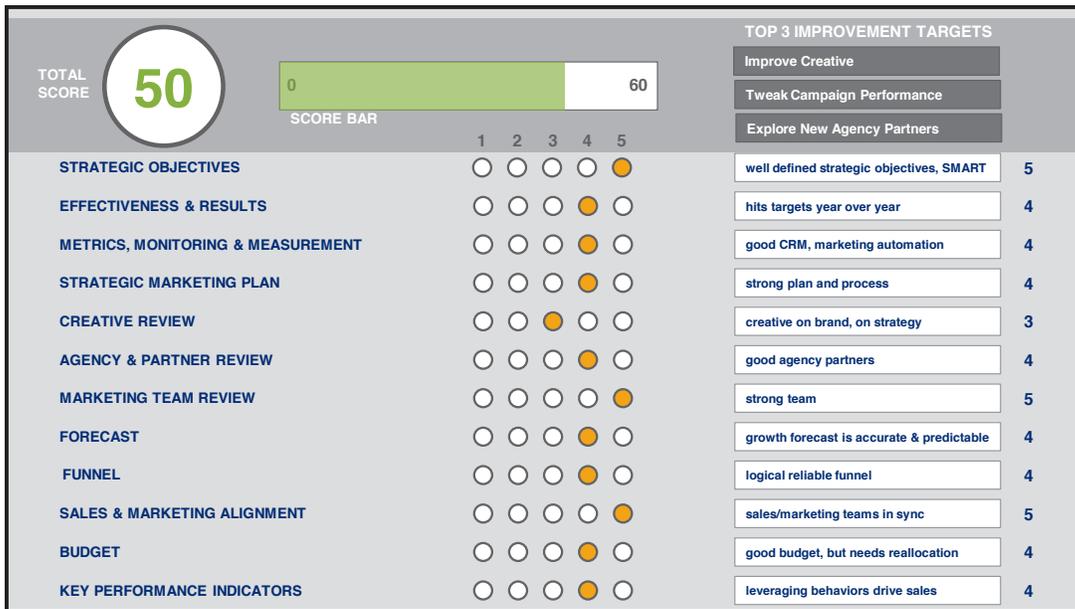


Adapted from Colleen Francis  
"Non-Stop Sales Boom"









## 2. Plan for growth.

### Online Growth Planning Course



- Over 40 video lectures
- A free copy of my Growth Strategist's Guidebook
- Strategic planning models
- 37 planning exercises, case studies, reading lists, and quizzes
- Access to my private Facebook Group



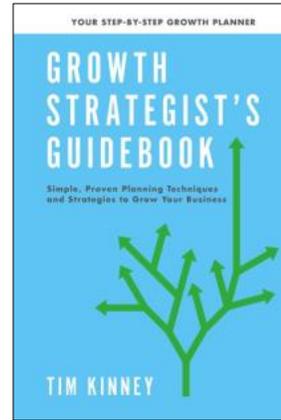
Investment  
Casting  
Institute

25% Discount for Members

Stay Inspired & On Track

  
**Growth Monitor**  
WEEKLY

*A blog to help you stay  
inspired with growth stories  
and strategies from leading  
media outlets from around  
the world.*



Thank you.



# 7 GROWTH KILLERS

(and how to stop  
them!)

# **The 2019-2020 Economic Outlook: Is The Tank Running Out of Gas?**

**Dr. Ken Mayland  
ClearView Economics**

**Investment Casting Institute**  
**San Juan, Puerto Rico; May 8, 2019**

**The 2019-2020 Economic Outlook**  
**Is the Tank Running Out of Gas?**



**Dr. Ken Mayland,**  
**President**

*ClearView* Economics, LLC

[www.cvecon.com](http://www.cvecon.com)



*ClearView*  
Economics

**From 2016: Conclusions: Mfrs, What Would Be**  
**the “*Batten Down the Hatches*” Indicators?**

- ✓ Initial claims
- ✓ Inventory imbalance
- ✓ SURGE of inflation
- ✓ Further plunge of commodity prices
- ✓ FLAT yield curve
- ✓ Credit crunch
- ✓ Exogenous (outside) factors?



***China!***  
***Currency devaluation?***



## Quality of Economic Growth: *Improved*

### Contributions to GDP Growth, By Sector Real, % Ch at AR

Sector:	2016: 4 Qs	2017: 4 Qs	2018: 4 Qs
Consumption	1.87	1.83	1.74
Non-Res Business Investment	0.23	0.80	0.93
Residential Investment	0.16	0.14	-0.13
Inventory Investment	-0.20	-0.11	0.39
Net Exports	-0.34	-0.23	-0.22
Government	0.16	0.03	0.29
<b>Total Real GDP Growth</b>	<b>1.87%</b>	<b>2.47%</b>	<b>3.0%</b>



3

*ClearView*  
Economics

## From 2016: ... The Policy Directions Were Starkly Different!

- **Taxes: lower taxes and tax reforms vs. ~~higher taxes and more taxes~~**
- **Regulations: reforms and rollbacks vs. ~~more regulations~~**
- **College costs: “free” college and ~~student debt relief~~ vs. ????**
- **Immigration: fences vs. ~~bridges~~**
- **Supreme Court: conservative justices vs. ~~liberal justices~~**



4

*ClearView*  
Economics

## Why the Shift to Better Growth?

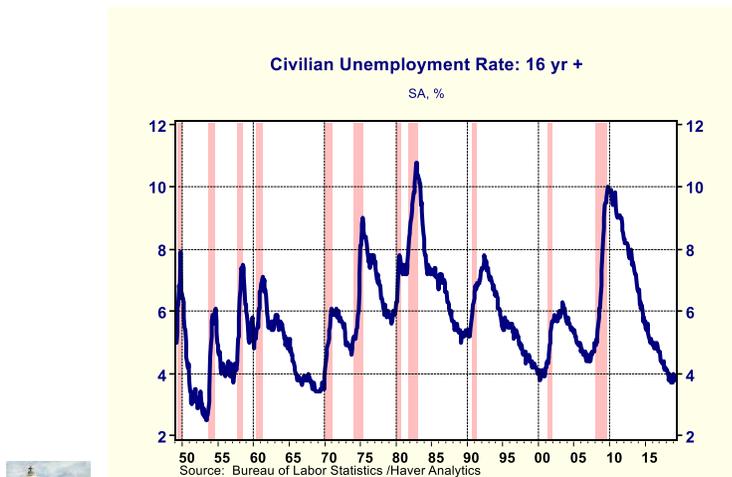
- Better growth of business capital spending
- Faster inventory building
- Less drag from net exports
- More growth in government purchases: budget deal leads to more defense and nondefense spending



5

ClearView  
Economics

## Unemployment Rate at 3.8% ("Full Employment") From Where Will the New Workers Come?



6

ClearView  
Economics

## From Where Will the New Workers Come?

- Demographics/natural increases
  - For the last *three* years, the **civilian labor force** has grown a hair more than 1% per year.
  - That equates to about 1.5 – 1.7 million “bodies” (able-bodied, working age persons) per year.

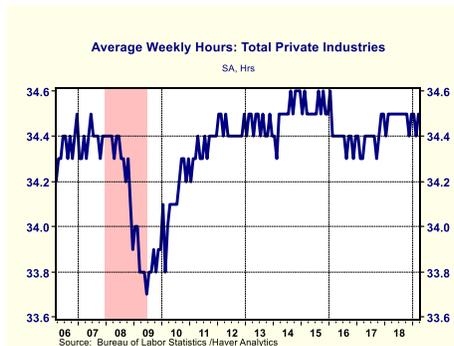


7

ClearView  
Economics

## From Where Will the New Workers Come?

- The length of the workweek
  - Adding 0.1 hours (for a year) would be the equivalent of adding 371k workers
  - There are 4.7 million persons working part-time *for economic reasons* (and 21.1 million *voluntary* part-time workers)



ClearView  
Economics

## From Where Will the New Workers Come?

- Labor force participation
  - Current LFPR = 63.1% (2019:Q1)
  - 2006 LFPR = 66.3%
  - The 3.2% difference = 5.4 million persons!
  - Stated in other terms, there are 95 million working age adults *not in the labor force*



## From Where Will the New Workers Come?

- Immigration: legal and illegal
  - May be 1.2 million per year (BUT *some* of this may be double-counted in the civilian labor force growth data)



## From Where Will the New Workers Come?

- **De-regulation**

- Suppose that for every 100 workers there are 98 “producers” and 2 workers dealing with regulatory compliance. NOW, as a result of deregulation, you can free up 1 of the 2 workers. That should roughly lead to a 1% increase in output (or add the equivalent of 1.2 million effective workers).



11

ClearView  
Economics

## From Where Will the New Workers Come?

- **Productivity** (more output from current workforce)
  - From de-regulation, *previous slide*.
  - From increased and more effective capital spending.



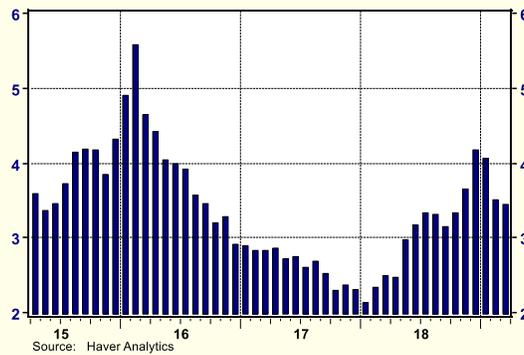
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## Current State of the Economy ...

- Credit/capital markets: *hint* of upcoming troubles?

Junk Bond Spread: S&P BB+ 10-Yr MINUS 10-Yr US T-Bond



Source: Haver Analytics

15

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## Currently: *Downside* of Inventory Cycle

Sales: Total Business  
% Change - Year to Year SA, Mil.\$

Inventories: Total Business  
% Change - Year to Year EOP, SA, Mil.\$



Source: Census Bureau/Haver Analytics

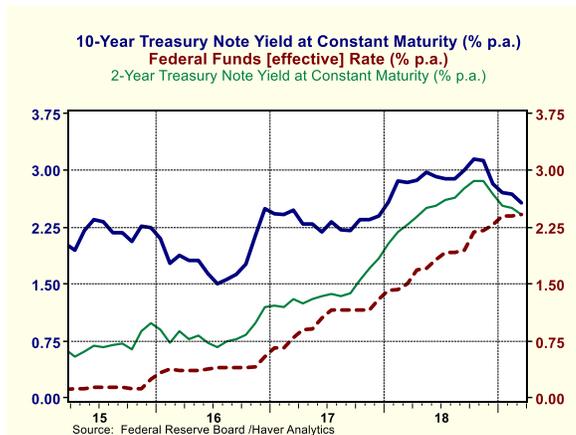
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## Monetary Policy: Interest Rates March Higher

- No major worries about interest rates at *these* levels (and near-term further increases)



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17

## Conclusion...

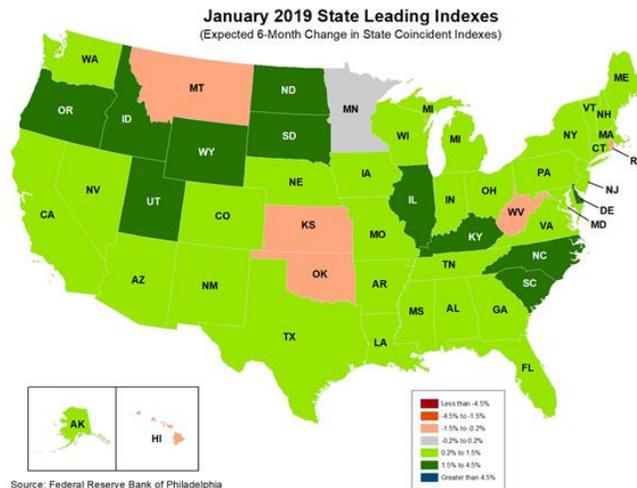
... The U.S. economy is continuing to expand, but the shorter-term **UPSIDE** possibilities have run their course... Now, some **slowdown** factors are working, making the economy *vulnerable* to a downside exogenous shock; the clock is ticking...



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18

## Regional Situation: Winners and Losers



19

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## The Future: *Opportunities for 2019 and Beyond Stimuli?*

- **New infrastructure legislation/investments???**
- **Strictly middle-class tax cut???**
- **More/better trade deals???** Next slide...



20

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## The Future: *Trade Policy*

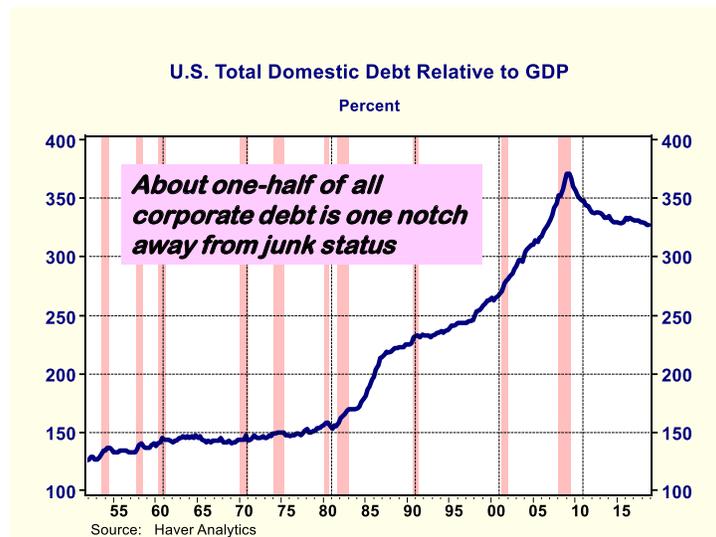
- It could go *either* way: tariffs can lead to a trade war OR to a level playing field
- Background: the “trade deficit” (\$950+B, real) is a *honey pot*. With the SAME amount of consumer spending and business investment (= “demands”), IF domestic production could be substituted for imports, THEN GDP (employment, industrial production) would be MUCH higher! (\$0 deficit => GDP up 5.6%)



21

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## The Future: *Too Much Debt...*



22

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## ...Too Much Debt

Period	Inc in Total Debt	Inc in GDP	Ratio: $\Delta D/\Delta GDP$
1950 - 1960	\$358B	\$243B	1.47
1960 - 1970	\$817B	\$533B	1.53
1970 - 1980	\$3,074B	\$1,787B	1.72
1980 - 1990	\$9,221B	\$3,117B	2.96
1990 - 2000	\$13,881B	\$4,305B	3.22
2000 - 2010	\$25,007B	\$4,680B	5.34
2010 - 2018	\$15,108B	\$5,624B	2.68
-- 2016 - 2017	\$2,355B	\$853B	2.76
-- 2017 - 2018	\$2,871B	\$1,033B	2.78



## ...Too Much Debt!

- Student loans: \$1.57T
- Subprime auto loans: delinquency rate today *highest in 10 years* (8.7%); 7M auto loans 90+ days delinquent
- High yield corporate debt: \$4 trillion coming due in 5 years, must be rolled (will they?)
- Pensions: cities and states facing *huge* financial pressures (populations fleeing!)
- Federal gov't: back to *trillion \$ deficits*; US debt = 105% of GDP
- Japan debt/GDP = 253% (2017)
- China HH debt/GDP=52%; total Debt/GDP=300% (2017)
- Past debt crises themes: sovereign risk; high yield corporate; commercial real estate; subprime housing; what's next???



## Economic Watch List...

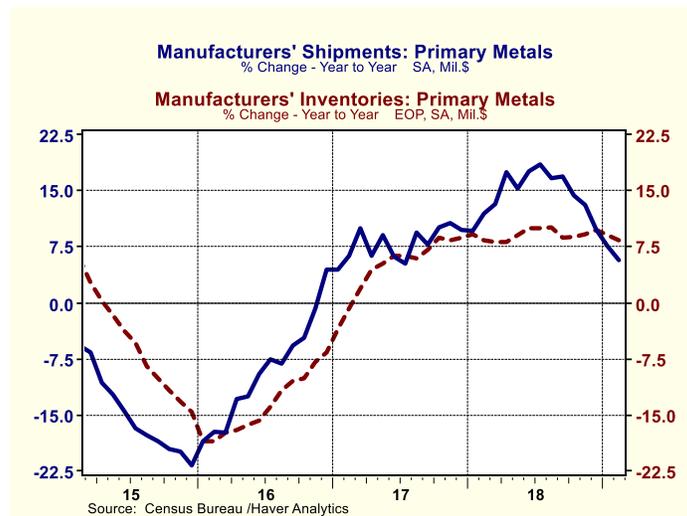
- ✓ **A diminution, and then flip, of the positive inventory dynamic**
- ✓ **Deteriorating credit spreads**
- ✓ **A rising trend of initial claims**
- ✓ **THEN, the souring of the standard macro indicators (jobs, orders, production, ...)**



25

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## Supplemental Charts...



26

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# Supplemental Charts...



# Supplemental Charts...



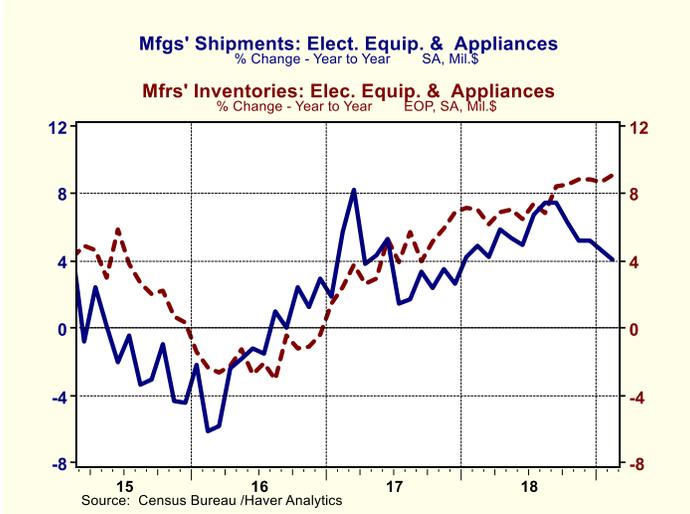
# Supplemental Charts...



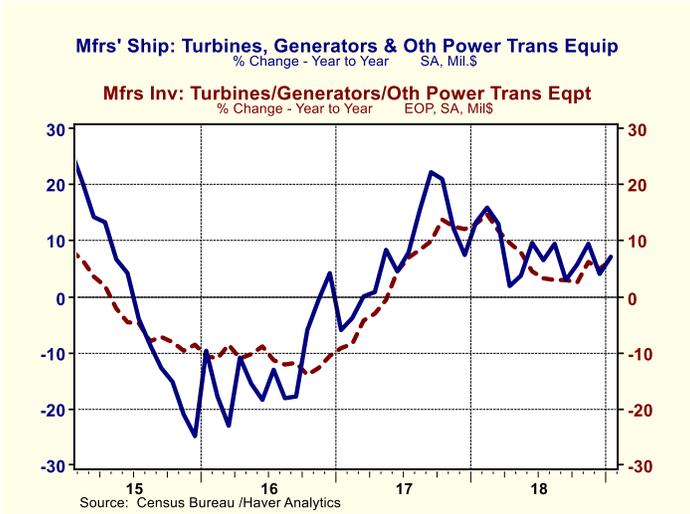
# Supplemental Charts...



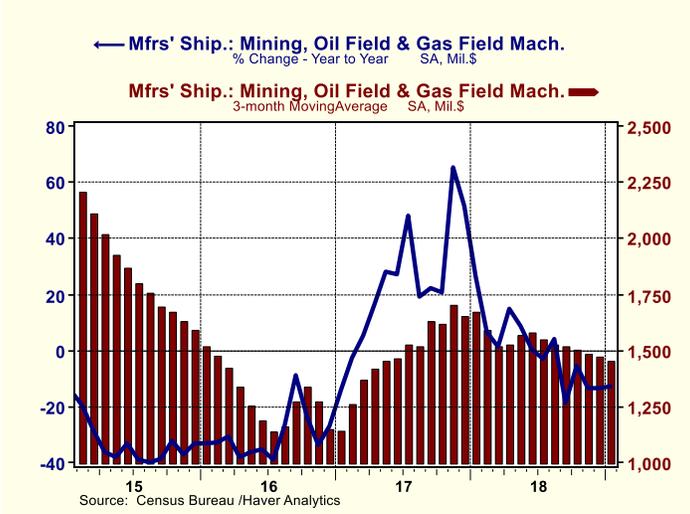
# Supplemental Charts...



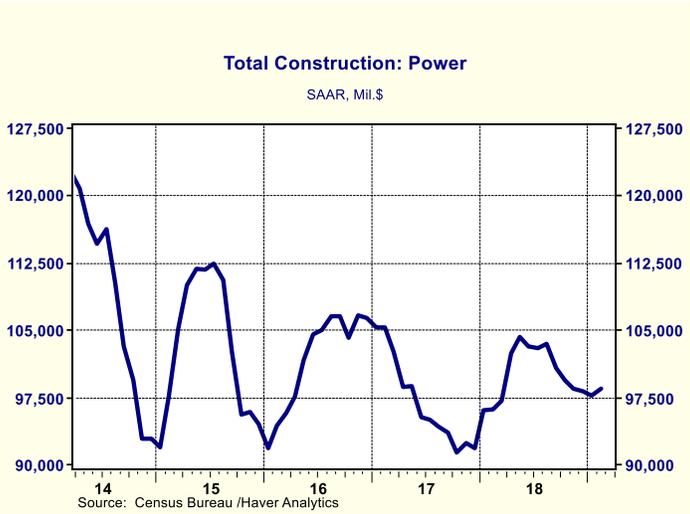
# Supplemental Charts...



# Supplemental Charts...



# Supplemental Charts...



# Q&A



35

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