"The North American die casting industry made some significant strides forward in 2015."

— Daniel Twarog, NADCA President
Letter from the President

Dear Die Casting Professional:

I believe the North American die casting industry made some significant strides forward in 2015. The 2015 Die Casting Congress & Exposition was well supported and attended. That is not the big news. The industry’s interest in the content was the news. Maybe it was the younger looking crowd or the larger participation from all sized members, but the “vibe” was definitely different. After 21 years NADCA Congresses and 12 years More foundry ones before that, I was impressed with the interest in the newest die casting technology on display and in the Congress presentations. My impression was that there was an energy and desire to actually implement the technology!

Technology implementation is a focus of NADCA and we invested more money than ever in industry research in 2015. From conformally cooled cores produced by 3D printing to the newest low iron high strength alloys, papers were presented and significant discussion ensued. The die materials and research committees hit home runs in putting our research funds into projects that will change the die casting industry.

The results of the research and technology demonstrations were infused into NADCA in-plant training, live webinars and online training courses. The industry supported this dissemination of technology by their participation in these activities as well.

Video news, DCE magazine and industry conferences provided thought provoking information that allowed industry to go to the next level of putting these concepts to practice. Even our fifty year old gating calculations were evaluated and a new equation was developed.

The association was led by strong leaders on the NADCA Board, with an eye on the advancement of the industry as a whole and not on their particular company. The Board was chaired by Eric Treiber who took everyone’s position into consideration and made impactful decisions on governance and process. NADCA is fortunate to have passionate people leading its chapters and committees. The industry is stronger than ever because of these volunteers.

One volunteer and Extraordinary Board member that will be missed is Bob Wilson. He succumbed to a one year battle with cancer in July. It will be impossible to find another person with his passion and commitment to NADCA over his 35 years of Active participation.

It will only be through participation that NADCA will continue to move forward in 2016. Benchmarking, technology marketing, and virtual training are all centerpieces to the goals established for the coming year. Thanks to everyone that has helped NADCA become a preeminent manufacturing association. I look forward to more positive changes in the industry in the coming years.

Thank you,

Daniel Twarog, President
North American Die Casting Association
Those Who Lead

NADCA Board of Governors

Eric Treiber, Chairman
Chicago White Metal Casting Inc.

John R. Walker, Vice Chairman
Walker Die Casting Inc.

Doug Harmon, Secretary/Treasurer
Twin City Die Castings

NADCA 2015 Executive Officers & Terms

Andrew D. Behler, 2015-2017
Blue Ridge Pressure Castings Inc.

Paul Brancaleon, 2014-2016
Premier Tool & Die Cast Corp.

Scott Bull, 2015-2017
Pace Industries – Corporate Office

Yeou-Li Chu, 2014-2016
Ryobi Die Casting

Steven Church, 2014-2015
Gibbs Die Casting

Leonard Cordaro, 2014-2016
Premier Die Casting

Steve Dathe, 2014-2016
A&B Die Casting

Raymond Donahue, 2014-2016
Mercury Castings – Division of Mercury Marine

Scott A. Frens, 2014-2016
Fort Recovery Industries Inc.

Harold J. Gerber, 2013-2015
Shiloh Industries, Inc.

Patrick J. Greene, 2015-2017
Cascade Die Casting Group Inc.

Robert Hartl, 2014-2016
American Aluminum Casting Co.

William Hiegel, 2013-2015
Custom Alloy Light Metals Inc.

Todd Ikerd, 2014-2015
Auto Cast Inc.

Mike M. Jurcic, 2013-2015
Craft Cast Engineering Inc.

Mark Kruszynski, 2015-2017
LaFrance Manufacturing

John D. Littler, 2013-2015
Littler Diecast Corp.

Robert Malarky, 2013-2015
Chicago White Metal Casting Inc.

RCM Industries Inc.

David P. Rawlings, 2013-2015
Mo-Tech Corp.

Tom Vann, 2014-2016
Visi-Trak Worldwide

Joseph Vitollo, 2014-2016
ABCO Die Casters Inc.

Robert E. Wilson, 2014-2016
Callen Manufacturing Corp.

David S. Wolf, 2013-2015
A Finkl & Sons

Robert Worthy, 2015-2017
The Worthy Company

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Accounting Assistant

Daniel Twarog
President

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Director of Research, Education & Technology

www.diecasting.org/dce

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Planning for the Future

NADCA Mission

NADCA is committed to promoting industry awareness, domestic growth in the global marketplace and member exposure.

Strategic Areas of Concentration

Chapter Relations:
Foster community and local business relations, attend speaker and networking events, influence both association direction and industry change.

Research and Development:
Identify industry needs and expand funding sources that optimize die casting processes and techniques.

Education:
Present industry knowledge for creating improved die cast parts and processes, incorporating the latest standards and educational curriculum.

Meetings and Expositions:
Provide public and networking opportunities to develop customer relations and position association members as leaders in die casting.

Marketing:
Bring business and engineering focus to die casting as the process of choice.

Membership:
Provide member base with industry news, technical information, promotional activities, networking and referral opportunities and trade events.

Government Affairs:
Foster strategic alliances and increase grassroots efforts to effectively bring industry matters directly to leaders in legislature and Washington.

Globalization:
Assert NADCA's member die casters' presence in the global and domestic markets.

Membership – The Association’s Foundation

As the industry’s trade association, NADCA represents a range of companies directly and indirectly involved in the die casting industry including captive die casters, custom die casters, suppliers, OEMs and job shops.


Despite these recent additions and rejoining members, the Association did lose 15 Corporate Member companies in 2015, for reasons such as closures, acquisitions, and diminished focus on the die casting industry.

Individual Membership took a slight dip in 2015. NADCA will continue to launch more technologically advanced services and benefits in order to increase membership. NADCA will be working with a Marketing Firm in 2016 in attempts to broaden our reach and attract more members by highlighting all of the services NADCA has to offer.

NADCA’s Membership Plus program reached its three year anniversary in May 2015. The program is a membership upgrade that offers quarterly webinars, downloadable technical publications, engineering calculators and an online technical community for interacting with other North American-only engineers. In 2015 Plus Members also had access to the Online Gating App, the PQ App, Fill Time App, Greenhouse Gas Calculator v1.4, Aluminum Property Estimator v0.1 and Frequently Used Equations.
NADCA Chapters – Membership at a Local Level

NADCA membership and resources are represented across the country through the efforts of its 15 active area Chapters. The regional Chapters hold local meetings, host social events and organize plant tours. Active chapters are located in:

- 3 Michigan
- 5 Chicago
- 6 Cleveland
- 7 New York
- 9 Central NY
- 10 Ontario
- 12 Wisconsin
- 14 S. Ohio
- 15 Southeastern
- 16 Minnesota
- 17 St. Louis
- 25 Indiana
- 29 South Central
- 30 Los Angeles
- 39 SW Michigan

NADCA staff once again met with every chapter across the country in order to present the current state of the industry at chapter meetings, as well as the benefits of NADCA membership. Staff successfully visited all Chapters. Chapter 10 held a NADCA training via recorded webinar for its members. Additionally, Chapter 17, Chapter 3 and Chapter 12 hosted live NADCA training events. Chapters receive a special rate for hosting NADCA training and in turn, may charge their attendees what they feel is a reasonable price for courses. Some chapters even offer free courses to any card-carrying member.

An additional NADCA provides its chapters (in good standing) a rebate program, based on total membership. In 2015 NADCA provided each chapter with options for utilizing their rebates such as:

- A Chapter In-Plant Course.
- Events include live webinars, national education course and conferences.
- Orders include publications and courses through NADCA’s Online Education System.

www.diecasting.org/dce

Industry Award Winners

Instructor of the Year
Martin Hartlieb
Viami International

Emphasis On Education
RCM Industries
Franklin Park, Illinois

Technical Committee Member of the Year
Rob McInerney II
Buhler Prince

Best Congress Paper
The “Gating Equation” Updated
R. Allen Miller
Ohio State University

Nyselius Award
Stephen P. Udvardy
Visi-Trak Worldwide LLC

Gullo & Treiber Award
Ryan Winter
Eastern Alloys

Edward A. Kruszynski Supplier Excellence Award
Chem-Trend LP

Austin T. Lillegren Award
Eric Treiber
Chicago White Metal

Herman H. Doehler Award
Leonard Cordaro
Premier Die Casting
Publications – Improving the Industry’s Knowledge

NADCA introduced several new and revised publications in 2015 that will continue to spread information and technology that is being developed. The following publications are new or revised in 2015 and are currently available for download in NADCA’s marketplace.

- NADCA Product Specification Standards - Book - (PUB-402)
- NADCA Product Specification Standards - Download - (PUB-402-D)
- Die Casting Industry Capabilities Directory - Download - (PUB-625-D)
- Cost Management - Book - (PUB-807)
- Cost Management - Download - (PUB-807-D)
- Surface Defects - A Guide to Correcting the Problems - (PUB-517)
- Surface Defects: A Guide to Correcting the Problems - (PUB-517-D)
- Product Design for Die Casting - (PUB-E606)
- PQ\textsuperscript{2} Machine Power and Die Compatibility - Book - (PUB-E700)
- PQ\textsuperscript{2} Machine Power and Die Compatibility - Download - (PUB-E700-D)
- The Zinc Die Casting Process - Book - (PUB-202)
- The Zinc Die Casting Process - Download - (PUB-202-D)
- Shrinkage Porosity - Guide to Correcting the Problems - (PUB-518)
- Shrinkage Porosity: Guide to Correcting the Problems - (PUB-518-D)
- Dimensional Repeatability - English Units Version - Book - (PUB-E211)
- Dimensional Repeatability - English Units Version - Download - (PUB-E211-D)
- Dimensional Repeatability - Metric Units Version - Book - (PUB-E211M)
- Dimensional Repeatability - Metric Units Version - Download - (PUB-E211M-D)
- Die Casting Defects - Causes and Solutions - Book - (PUB-E515)
- Die Casting Defects - Causes and Solutions - Download - (PUB-E515-D)
- Standards for Semi-Solid and Squeeze Cast Processes - (PUB-403)
- Operator Training Program - Book - (PUB-685)
- Gating Manual - Book - (PUB-512)
- Gating Manual - Download - (PUB-512-D)
- Flash Defects: A Guide to Correcting the Problems - (PUB-519)
- Flash Defects: A Guide to Correcting the Problems - (PUB-519-D)
- Die Coatings for Die Casting Dies - Book - (PUB-230)
- Die Coatings for Die Casting Dies - Download - (PUB-230-D)
- Wage & Benefit Survey - 2015 - Book - (PUB-852)
Education – Growing Online Attendance

In 2015 we saw a slight increase in instructor-led education activity. We suspended National Courses. Chapter, In-Plant, In-House and Train-the-Trainer attendance in 2015 totaled 562 students for 34 course offerings extended by NADCA. Four Chapter courses with 101 students and 35 In-Plant courses with 436 students. The In-House Program was completed by 25 students at one facility. NADCA licensee Southwestern Michigan College (SMC) continued to suffer in 2015. Not a single NADCA course typically offered through SMC was offered in 2015 due to lack of attendance. Therefore, the grand total for 2015 attendance was 562 compared to 2014 attendance level of 868, 2013 attendance of 730, 2012 attendance level of 628, 2011 attendance level of 950, 2010 attendance level of 404, and the 2009 attendance level of 449.

The online education system uses webinars and existing online courses to make up its catalog of over 185 hours of training. A course in the online education system includes a recording of the course, the .pdf of the presentation, any applicable books to support the course and a test. Courses are sold either in training blocks to companies (available for corporate members only), and job kits or individual courses to individuals in North America. Since the launch of the online education system there have been 33 training blocks sold, 22 job kits sold and 1037 individual courses sold. This has been a vast improvement over our previous online education system.

Webinars have continued to increase in attendance in 2015. These hour-long presentations typically run every week and cover topics many topics. Around 1343 people attended in 2015 compared to 1374 people in 2014 and over 960 in 2013. We held a total of 110 webinars.


In 2015, NADCA began a major benchmarking effort to help die casters gage their operations against comparable facilities. The first phase of the effort will be presented in early 2016 at the Executive Conference. Data will be collected from hundreds of operations in North America throughout 2016.

NADCA also sponsored another study on non-automotive end markets. The results were presented at the Marketing Conference and will be summarized in about DCE article.

The annual wage and benefit survey was conducted and over 50 companies participated. One of the interesting piece of data from the survey was that Automation and the size of machines has increased facility productivity. In 2015, the median of dollars shipped per employee increased to over $185,000. The top performers were over $325,000 of shipments per employee.

In addition to these major studies/surveys, NADCA conducted 9 quick surveys. Survey participation ranged from 35 to 70 operations. The 2015 subject of these surveys were as follows:

- Lease Cost Survey
- Turnover Survey
- Safety Survey
- Model Terms & Conditions Survey
- Magnesium Contract Versus Spot Survey
- Hydraulic Hose Repair Survey
- Health Insurance Report
- Dimensional Analysis Survey
- Die Lube Survey

For 2016, NADCA will continue the detailed benchmarking effort and additionally contract a marketing firm to work with industry to develop market data and information on current die casting technology which will increase market use and awareness of high pressure die castings for new end markets.
Marketing – NADCA Industry Marketing Effort

The marketing of die castings to the designers and purchaser continues to be at the forefront of the NADCA Marketing Committee. In 2015 the Marketing Committee continued the success of the Die Casting Design webinar series by running it again in the spring of 2015. This offering allows us to increase the number of leads generated for NADCA Corporate members and well as educate designers on the die casting process. Sponsors of this series included: DECO Products Company LLP, Lakeside Chicago White Metal Casting Inc, RCM Industries, Inc. and Technical Die Casting Inc. This series was promoted to a purchased list of OEMs and generated roughly 200 leads in the spring of 2015.

In 2015 NADCA designed and distributed a printed version of the Die Casting Capabilities Directory. This directory highlighted information NADCA Corporate Members. These printed directories were made available to OEM’s in order to help them better select a die caster that meets their needs. As always, the searchable Online Capabilities Directory continues to provide information on all die casters in NADCA’s database.

In 2015 NADCA also held its biannual Marketing Conference in Indianapolis, IN, in conjunction with the Die Casting Congress and Exposition. The Conference provided individuals interested in the sales and marketing aspects of the die casting industry with up-to-the-minute information on industry trends affecting today’s changing marketplace. Nine speakers addressed a wide range of information to help participants gain a better grasp of this rapidly changing marketplace. Topics included: How to Attract Youth to the Die Casting Industry, Technology Trends in Non-Automotive OEM Die Casting Use, Insight into the Global Tooling Industry, Marketing Your Business with LinkedIn and other Social Media, Use of TCO Can Help Die Casting Industry Growth, Internet and Directory Marketing for Manufacturers, State of the Die Casting Industry and Marketing Proposals - Strategic Marketing Plan for the Die Casting Industry. Attendees of the event made comments such as “I appreciated this opportunity to get info relevant to B2B and die casting” and “Please keep them going, the conferences are really appreciated.” In 2016 NADCA will host a series of webinars on the topic of Marketing for the Die Casting Industry. Please look for our Marketing Monday webinar topics in 2016.

NADCA also organized the International Die Casting Competition. Winning castings were displayed prominently at the 2015 Die Casting Congress and Exposition in Indianapolis, IN. Since 1972, the competition has featured the top designed die castings annually. Ten winners in various categories were selected.

Numerous publications and journals have requested information on the winners making this a great tool for industry as well as an excellent marketing tool for the winners. For more information on how to compete in the 2016 International Die Casting Competition please visit www.diecasting.org/castings/competition.

We continue to distribute press releases to our database of media contacts to draw attention to the die casting industry. Such releases include, Industry Scholarships, Safety Award Winners, Die Casting Wages, Industry Conditions and NADCA’s ongoing work with The Franklin Partnership who represent our interests in Washington. The Die Casting Design newsletter, which is distributed to over 5000 designers twice a month, is yet another way NADCA informs the design community of die casting related news, opportunities and advancements.

In 2016 NADCA will be enlisting the assistance of a Marketing Firm to help promote new technologies in the industry and expand our reach to various OEM markets. NADCA Video New and Information will also grow with more technical information that is relevant to the die casting industry. You are just one click away from all the news and information in the die casting industry that is necessary to run your business.
Webinars – A Travel-Free Option for Education

In 2015 NADCA continued to offer webinars as an easy and cost-effective way for individuals to obtain knowledge without the hassle or cost of travel. In 2015 NADCA hosted over 110 webinars and attendance for these webinars continues to be overwhelming, with roughly 1343 registrants recorded. It is also important to note that because webinars are convenient for group viewing that the number of actual views is much higher than the registered amount.

Of the webinars presented in 2015 over 40% were new topics. New webinar topics included: Basic Hydraulics (7 part series), Basic Electrical (6 part series), Gating (4 part series), Lean Systems Thinking for Manufacturing Operations Series (6 part series), Introduction to Die Casting (3 part series), Safety in Die Casting (4 part series), Mechanical Maintenance & Evaluation of Die Cast Machines (3 part series), Applications of Additive Manufacturing in Die Casting and many more.

In 2015 all new and updated NADCA webinars were converted and integrating into NADCA’s Online Education System. Although an individual can no longer purchase a downloadable copy of the presentation or recording all previously run webinars can be accessed through the Online Education System. Purchasing access to an individual course through the system allows you access to the recording, presentation, support material and quiz for one year. New webinars will continue to be made available through the Online Education System within one week of their air date. To view all course available visit the NADCA Marketplace and search “online education”.

NADCA plans to run 157 webinars in 2016 with new topics to include, Advanced Hydraulics and Electrical, Gating and PQ, Coating, Pulsed Spray, Welding Techniques and many more. These 60 minute presentations not only address vital information on the topic but also provide adequate time for questions, answers, and discussion. NADCA looks forward to another rewarding year of webinar participation and is excited to be offering constant education via this easily accessible medium. To view or register for upcoming webinars just visit, www.diecasting.org/webinars.

NADCA Online – www.diecasting.org

In 2015, NADCA continued to improve certain website areas.

The Technical Archives continued to be updated with more content. Improvements were made to the search function of the Technical Archives so that articles are more easily accessed by members of NADCA.

NADCA Membership Plus, which grants access to Die Casting Solutions, an online community of information and resources was updated with a number of added features. New members plus exclusive webinars were added to the webinar archives. Plus members can access the recordings and presentations of these webinars at any time for easy viewing.

2015 was also a year of growth in terms of the NADCA website. NADCA developed a new section called NADCA Video News & Information. With Video News & Information you are just one click away from all the news and information in the die casting industry that is necessary to run your business. You will find frequently updated videos addressing a variety of topics such as:

- Washington Issues
- Results of NADCA Studies and Surveys
- R&D Activities
- Industry Statistics
- Industry News
- Technology Applications

NADCA’s online education program was also improved upon in 2015. With the internet being the easiest and most cost-efficient way to deliver educational content to members, NADCA has continued to give regular webinars and add to its online education library. These webinars happen on a weekly basis and will continue to do so in 2016 and beyond.

NADCA is very excited to be able to offer all these new services to our members and will continue to keep our website, content and services relevant to your ever-changing and expanding needs.
Meetings & Conferences – Networking With Your Peers

In 2015, NADCA conducted the Executive Conference, Plant Management Conference, Metalcasting Industry Government Affairs Conference, and Die Casting Congress & Exposition.

The Die Casting Executive Conference was February 22-25, in Marco Island, FL at the Marco Island Marriott Beach Resort, Golf Club & Spa. The annual conference was a three day event that featured presentations on demographics, lessons learned from the great recession, healthy eating, energy savings, Washington update, end market analysis and structural die casting. The conference was well attended was at a ten year high by both die caster and supplier executives.

The 2015 Plant Management Conference was May 6-8 at the Fremont Marriott Silicon Valley in Fremont, CA. Special presentations included Energy Efficient Furnaces, Increasing Profits and Productivity through Fluid Maintenance and Employee, Engineer & Management Training. The conference also featured Break-out discussions. Tesla Motors hosted a plant tour for conference attendees.

In 2015 the North American Die Casting Association (NADCA) hosted our Government Affairs Briefing in conjunction with the National Association of Manufacturers’ (NAM) 7th Annual Manufacturing Summit. The summit took place June 2-3 at the Mandarin Oriental DC in Washington, D.C. Conference participants had nearly 100 meetings with lawmakers and key staff. Pertinent issues such as concerns regarding the new energy, EPA regulations, tax reform, and several other issues that are important to the die casting industry.

The Die Casting Congress & Exposition was held on October 5-7 at the Indiana Convention Center in Indianapolis, IN. The exposition was met with great interest from the die casting industry. Sponsored by solely NADCA, the event attracted over 200 exhibiting companies and over 2,500 attendees. This event featured three days of Congress sessions during which technical and management presentations were given by experts from around the world. These presentations offered sessions in several different fields of metalcasting, including: structural & MMC, process control & engineering, cast materials, die materials, die surface engineering, energy, computer modeling and die lubricants.

Monthly Resources – DCE, LINKS, & eNewsletters

Die Casting Engineer (DCE) magazine is distributed to all Individual Members, Corporate Members and subscribers. In 2015, more than 17,000 copies of Die Casting Engineer were in circulation, with an average of 2,400 people receiving each issue.

The magazine’s purpose is to act as a vehicle to promote the industry. It does so by featuring upcoming educational courses, conferences, industry news and technical articles submitted by the industry’s leading educators, scientists and suppliers. The past year featured numerous technical articles throughout the six issues. The themes for 2015 included furnaces & energy, metal melting & holding, zinc, process control & automation, quality control, safety, computer modeling, simulation & design, magnesium, and alloys & advanced technology.

DCE has its own web site, located at www.diecasting.org/dce. The web site is designed for ease-of-use and to be very user-friendly. The site is accessible through NADCA’s main web site through a link at the top of the page.

In 2015, LINKS magazine was replaced by a new service called NADCA Video News & Information. The new service acts as an information hub for members of NADCA, covering topics such as Washington Issues, Results of NADCA Studies and Surveys, R&D Activities, Industry Statistics, Industry News, Technology Applications and more. NADCA Video News & Information can be accessed at www.nadca.org/news.

NADCA also regularly sends out its own eNewsletters. The NADCA Update eNewsletter is sent to over 10,000 different people weekly. The eNewsletter updates its recipients on news in the industry, news from NADCA, upcoming conferences and meetings, and new products and publications. It is a great way to easily stay connected to the die casting industry.
Research & Technology – Maximizing Productivity

There were 13 projects in the NADCA research portfolio at the beginning of 2015 with a total leveraged value (direct funding plus cost share) of approximately $3,800,000. During the year, 3 projects were completed and 6 new projects were initiated, growing the portfolio to 16 projects. The increase in projects and change in project mix resulted in an increase in the total leveraged value of the portfolio to approximately $6,050,000 by the end of the year. The projects completed during the year were: Achieving Flash Free Die Casting, a NADCA funded project; Cavitation Measurement using ABS (Acoustic Bubble Spectrometer), a NADCA funded project; and, Qualification of Additive Manufacturing Processes and Procedures for Repurposing and Rejuvenation of Tooling, an America Makes (AM), formerly NAMII (National Additive Manufacturing Innovation Institute) funded project. The projects that were initiated included four NADCA funded project, one Colorado State plus NADCA funded project, and one Lightweight Innovations for Tomorrow (LIFT) funded project. The four NADCA funded projects were: Cores with Conformal Cooling, T6 Heat Treatment of Die Castings, Design of a Molten Metal On Demand System, and Die Spray Characterization. The joint Colorado State and NADCA funded project is Development of Multi-Layer Coatings and the Lift Project is Thin Wall Super High Vacuum Aluminum Die Casting. The greatest increase in funding level for 2015 was due to the LIFT project which has a total value of $2,200,000. Sources of funds for other projects in the portfolio include the United States Department of Defense (DOD) Defense Logistics Agency R&D (DLA/R&D) Casting Solutions for Readiness (CSR) Program; and, NIST (National Institute of Standards and Technology).

2015 Accomplishments
The benefit of providing a T5 heat treatment to E380 aluminum alloy with a sufficient amount of magnesium (0.15-0.30%) was demonstrated on production castings. This benefit is a substantial boost in yield strength. Modification of standard aluminum die casting alloys with low iron levels (below 0.4%) plus the addition of a small amount of strontium (0.05-0.07%) showed that strength and ductility can be improved by lowering iron and that soldering can be mitigated with strontium. New technical webinars were developed and presented in 2015 including a 6-part Lean Manufacturing series, a 7-part Hydraulic series, a 5-part Cost Based Operating Information Systems, Applications of Additive Manufacturing, and Die Lubricant Testing. Four special topic webinars were also developed and presented for Member Plus. The 2015 Product Specification Standards for Die Castings was released and additional steels were qualified and added to the NADCA Special Quality Die Steel and Heat Treatment Acceptance Criteria for Die Casting Dies document. The 2016 Research & Development Strategic Plan and Roadmap Overview was published in the July issue of DCE Magazine. Lastly, much effort was placed into proposal activities and preparation. A proposal submitted to the Susan Harwood Grant Program for additional safety training was not selected, nor was the proposal submitted to ARPA-e selected for Small Modular Induction Die Casting (a molten metal on demand effort). Proposal activity with LIFT has led to the initiation of the aforementioned Thin Wall Super High Vacuum Aluminum Die Casting Project and proposal activity with the Digital Manufacturing and Design Innovation Institute (DMDII) through the University of Illinois Champaign Urbana on a virtually guided certification related project has passed the initial gates in the project selection process.

The 2015 Die Casting Congress
There were 780 registrants for the congress portion of the Die Casting Congress and Exposition, an all-time record attendance level! There were 12 congress sessions, all being well attended with many sessions exceeding 100 attendees and some at 160. Session topics included cast materials, die materials, computer modeling, advanced technologies, testing of die lubricants, process control & Engineering, and die surface engineering. The Die Casting Congress was a huge success and a great testimony to the high quality of papers that were presented and technical information transferred.

Note: Contributions to the above have been made by the technical committees and task forces.
Safety, Energy & Environment

New Projects
NADCA has started working on a project to create an interactive learning environment for operators. This interactive learning environment will be designed to allow an operator to go through the process of starting up the die casting machine and creating warm-up shots. It will also allow an operator to inspect castings made during a “normal” run. The process variables can be tweaked to cause defects in the casting that the operator will need to identify. This will provide a safe environment, where an operator can become familiar with operating the die casting machine.

NADCA partnered with the University of Illinois Urbana-Champaign to analyze alternate trim methods. A team of students researched the current trim die process and possible alternatives. Not only did they look at the economic impact, but they also included the safety concerns of a manually operated trim press. The full report will be made available in 2016, along with a summary version in Die Casting Engineer.

Updates to Existing Projects
NADCA developed a new Safety webinar series in 2015. This series is split into 4 parts: Basic Safety, Electrical Safety, Machine Safety and Managing Safety. The split to provides more information about each topic and allow employees to take only the webinars that pertain to them.

Information from the Safety webinar series will be used to update the NADCA Safety book in 2016.

In 2015 energy sensor assessments were performed at two die cast facilities. Energy sensors were installed on a variety of machines. The energy usage of these machines were recorded for 2+ weeks. Trends and anomalies were noted and used to identify energy saving opportunities. The results from these assessments were presented at the 2015 Die Casting Congress in Indianapolis, IN.

NADCA participated in an Energy Treasure Hunt at one die casting facility. The Energy Treasure Hunt was designed to allow a facilities to perform an energy assessment internally, with a team of employees. During this assessment the employees of the facilities identified over 20 area where process changes can save energy. These energy saving opportunities where prioritized to choose those that should be addressed first.

NADCA will continue the energy assessment and treasure hunt project with two new die casters in 2016.

The Environmental Protection Agency (EPA) released a first draft of the Aluminum Energy Performance Indicator (EPI). With assistance from multiple die casters, NADCA responded to the EPI with concerns. Work on the EPI was put on hold for much of 2015, but the EPA started working on it again near the end of the year. There are factors that the EPA is trying to solve before the EPI will be ready, NADCA will continue to work with the EPA to ensure that the EPI functions properly before it is released.
NADCA Government Affairs – Our Voice in Washington

In 2015, NADCA continued its relationship with The Franklin Partnership (TFP) to act as NADCA’s representation in Washington, D.C. They are tasked developing Congressional connections for NADCA members among other items, including eNewsletter articles, a section in Die Casting Engineer magazine, and regular Government Affairs video updates presented by Omar Nashashibi.

The Franklin Partnership (TFP) is a bipartisan, Washington, D.C.-based government affairs consulting firm specializing in representing small, medium sized, and middle market manufacturers before Congress, the White House, and Federal Agencies. You can read more about The Franklin Partnership by visiting http://www.franklinpartnership.com.

NADCA’s views and positions are most important in the direction being taken by OSHA and EPA on host of topics which directly and indirectly impact our industry. NADCA has continued to give OSHA-related webinars on PPE, noise, reporting, and general handling the situation if “OSHA comes knocking.” Webinars continue to be a popular way for NADCA to communicate with and educate its members and the industry as a whole. NADCA has continued to engage Kestrel Engineering in developing articles for our magazine(s) on topics which will help our industry understand what OSHA is emphasizing and how to prepare your facility. Similarly, NADCA is working to bring the same level of service on EPA issues. NADCA also brought the issues to Washington, D.C. in their industry specific briefing.

NADCA has been historically successful in obtaining funds for pre-competitive technology development that has resulted in changing the die casting industry. More research is needed and NADCA continues to educate the administration’s offices on how die casting technology development would help advance the goals of the nation.

Look for more of this focused activity of EPA monitoring, OSHA reporting and research needs education being conducted in 2016. NADCA needs good stories from the industry and the people in industry to come to Washington, D.C. to tell their stories. NADCA urges its members to go to Washington, D.C. June 7-8, 2016 to allow your voices to be heard at the Government Affairs Washington Briefing.

NADCA spends almost 10% of the member dollar on Washington activities. This is a large percentage of your dues. Make that expense pay dividends - get involved in our Washington efforts.
NADCA is a member driven organization. In 2015, revenues exceeded expenses by $850,000. Instead of putting the money in the bank, the technical committees, finance committee, and Board collectively identified and implemented efforts to use these excess resources on industry research (over $540,000), marketing ($75,000), education ($262,000) and member service ($312,000) in 2015.

A chart of where the revenues and expenses are allocated is shown below. The record setting Exposition in Indianapolis was supported by industry and allowed NADCA to turn the revenues into products and services for the industry.

NADCA investments also recorded some modest gains through the conservative financial policy developed by the Finance Committee. The investment funds help pay for scholarships, research, and education.

In 2016, NADCA's budget is slightly negative. The Board and Finance committee take a broader view of the budget and use excess Expo revenue, generated every third year, to offset the expenses incurred over revenues. This approach allows NADCA to continue to invest in research and the development of improved industry programs. A few examples for 2016 expenses include the development of operator virtual training and more research in 3D printing conformally cooled cores.

### 2015 NADCA Revenue & Expenses

<table>
<thead>
<tr>
<th>Category</th>
<th>Revenue</th>
<th>Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership Services</td>
<td>28%</td>
<td>15%</td>
</tr>
<tr>
<td>Magazine</td>
<td>21%</td>
<td>7%</td>
</tr>
<tr>
<td>Research</td>
<td>26%</td>
<td>4%</td>
</tr>
<tr>
<td>Marketing</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Annual Congress</td>
<td>45%</td>
<td>13%</td>
</tr>
<tr>
<td>Education &amp; Conferences</td>
<td>15%</td>
<td>21%</td>
</tr>
</tbody>
</table>

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**Upcoming in 2016**

- 2016 Die Casting Congress & Tabletop in Columbus, OH
- Poland Delegation
- Plant Management Conference with Tour of GM Bedford
- NADCA 2016 App
- Simulated Training
- Launch New Online Die Casting Engineer Magazine
- Marketing New Die Casting Technologies
- 2016 Supplier Directory
- Benchmarking Report