

## AFS virtual learning is fueling foundries' success

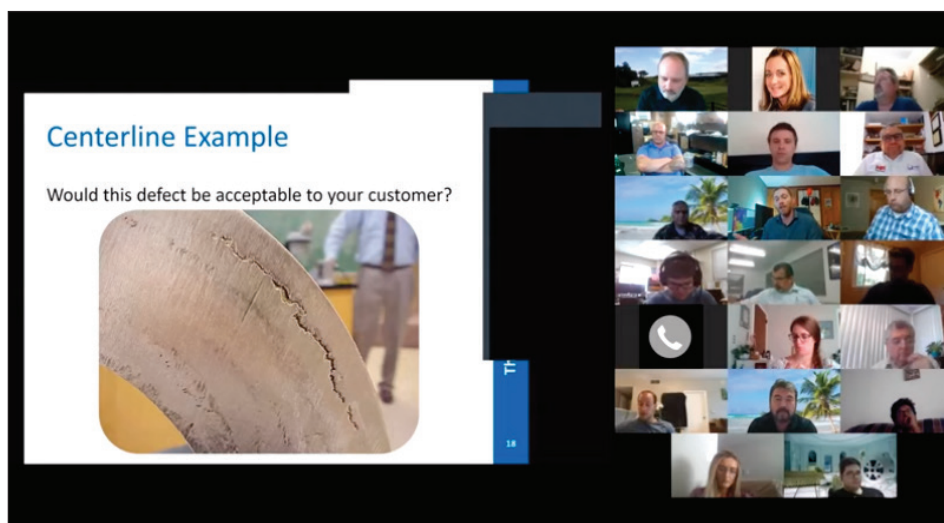
As offices and schools were shuttered and non-essential businesses ground to a halt in the wake of the COVID-19 pandemic, metalcasters kept right on working, safely and efficiently – a sure sign that foundries are essential to the entire manufacturing supply chain.

But even as work continued on factory floors across North America, some things changed, including the implementation of travel bans and in-person meeting restrictions. This made it difficult, if not impossible, for many metalcasters to conduct workforce training and continuing education programs as planned.

Enter the AFS Institute, which offers two virtual options to facilitate remote learning and fuel operational success for metalcasters and OEMs: AFS e-Learning and live online courses, the latter of which was launched this spring to help people who couldn't come to AFS' classrooms in Schaumburg, Illinois.

AFS e-Learning is the Institute's original digital learning tool, offering more than 100 modules covering every major alloy and process, from the basics of metalcasting to highly advanced topics. Using the Absorb learning management system, students and employers can track their progress as they make their way through the

Please see Learning on Page 6



Above: Students take part in a discussion during a recent live online course from the AFS Institute. Left: A still taken from an AFS e-Learning module. Visit [AFSinc.org](http://AFSinc.org) to get started.



## AFS welcomes new legislators, will defend foundries in Washington

As newly elected lawmakers prepare to take their seats on Capitol Hill,

AFS is preparing to advance the interests of metalcasters in Washington, D.C.

Although AFS does not have a PAC or endorse candidates, AFS aggressively advocates for foundries' interests in Washington. This includes ensuring that the approximately 60 new members of Congress understand the importance of metalcasting to their constituents, to the U.S. economy, and to the entire manufacturing supply chain.

As AFS works to advocate for a posi-

tive business climate for the \$44 billion metalcasting economy, it will support policies that quicken and strengthen the post-pandemic economy. Infrastructure investment and Buy America are priorities that seem to have bipartisan support.

AFS has been a strong proponent of the Paycheck Protection Small Business Forgiveness Act and pushed for "essential" sta-

Please see Legislators on Page 5



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# Metalcasters see a mixed outlook for 2021

**A**FS recently conducted the first-ever Quarterly Metalcasters Outlook Survey, which was emailed to more than 800 U.S. foundries. The survey responses provide some insightful information as the new year approaches. Four of the findings seem very timely to share.

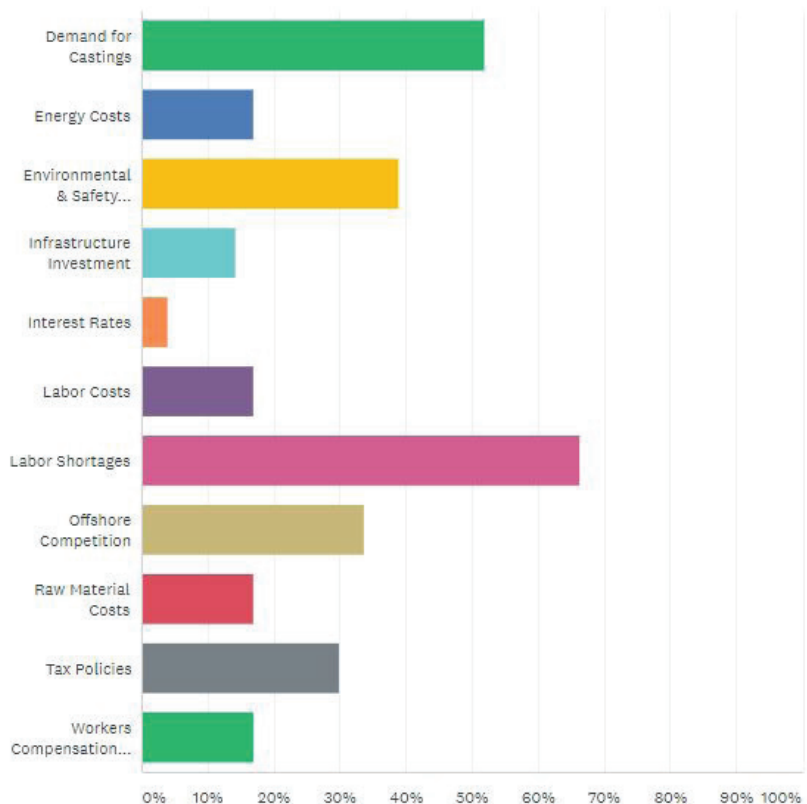
The first conclusion is that fully half of the respondents have a positive outlook for casting sales in 2021. Mind you, in most cases, their optimism is cautious. Another 23% have a neutral outlook, expecting sales to remain largely unchanged. The other 27% of our respondents have a negative outlook, with 13% of the respondents actually expecting sales to decline by 10% or more. As is almost always the case, the outlook for individual foundries hinges in significant part on the outlook for the industries they primarily serve. And a number of our key industries, such as oil and gas development, are still in a recessionary pattern. These overall findings are a clear example of a “mixed outlook” and provide further evidence of the need for pro-growth, pro-manufacturing public policies, the type of agenda that AFS is working to advance in Washington.

A second conclusion from the survey is that U.S. foundries are generally expecting wages of their workers to hold steady with 2020 or to grow, at most, consistent with the inflation rate. Only 14% of foundries expect wages at their facilities to outpace overall inflation. Likewise, almost half of the respondents expect employment to remain at current levels, while 37% expect to grow their workforce in the coming year. About 17% forecast a smaller head count.

Another key finding is that four out of every five responding foundries expect to make capital investments in 2021; and 18% of foundries expect those investments to exceed one million dollars in value. The most common targets for those investments will be grinding equipment (29%), inspection and testing equipment (26%), environmental controls (22%), robotics (20%), and machine tools (18.5%)

Which of these issues are major concerns or priorities for your company at this time?

Answered: 77 Skipped: 0



Finally, foundry leaders were asked about their chief concerns or priorities. Labor shortages was by far the top concern at 66%, followed by demand for castings at 52%, environmental and safety regulations at 39%, and offshore competition, which clocked in at 34%. These findings, which AFS will share with policymakers, again reinforce the need for policies that encourage young people to choose careers in manufac-

turing and that keep the cost of making things in America competitive on a global basis.

AFS will be providing all Corporate Members with a detailed Metalcasting Forecast and Census in January, which will provide extensive additional information useful in business planning and competitive benchmarking. To learn more about Corporate Membership, please contact me at [dkurkul@afsinc.org](mailto:dkurkul@afsinc.org).





## Registration, exhibit sales to open soon for virtual Congress

In its storied 125-year history, Metalcasting Congress has seen a lot of firsts – the latest technology, the newest research, breakthroughs that have changed the course of metalcasting and manufacturing at large. This April, people from across the metalcasting supply chain will have the opportunity to take part in yet another industry first: a virtual Metalcasting Congress, streamed entirely online and available worldwide.

Registration and exhibit reservations will open soon for the event, which is slated to go live online April 12-22, 2021.

The decision to go virtual, prompted by the COVID-19 pandemic, was affirmed by the AFS Board of Directors after thoughtful consideration of the sharp restrictions in place on trade shows, the fact that those restrictions would make it impossible and/or illegal for AFS to hold Metalcasting Congress 2021 as planned, the six-month lead time for planning and coordinating Metal-

casting Congress, and concern for the health and safety of AFS members.

The pandemic forced the cancellation of 2020's gathering – the first time since World War II that Metalcasting Congress was called off entirely – but it won't hold back 2021's event, widely regarded as the industry's premier setting for knowledge transfer and business networking. With the economy showing early signs of a post-pandemic rebound, Congress will be an essential component of next year's business plans for foundries, suppliers, and casting buyers. And although the event will be presented differently than in years past, the breadth and depth of metalcasting research and resources will be unchanged.

Exhibit sales for suppliers and foundries will open shortly. Additionally, a limited number of sponsorships are available for Metalcasting Congress 2021. For information on reaching your customer base and building your brand at Metalcasting

### METALCASTING CONGRESS 2021 HIGHLIGHTS

- Virtual exhibits offering video, literature and customer-communication capabilities
- Opportunities for virtual business networking,
- More than 60 technical and management educational sessions plus two Hoyt Lectures
- Awards honoring excellence in metalcasting achievement and leadership

*Live online and streaming on demand, April 12-22, 2021. Registration opening soon at [metalcastingcongress.org](http://metalcastingcongress.org).*

Congress 2021, email John Carano at [jcarano@afsinc.org](mailto:jcarano@afsinc.org). Registration and additional attendee information will be available at [metalcastingcongress.org](http://metalcastingcongress.org).

## Now streaming: Educational content from AFS conferences

The latest in metalcasting expertise is now streaming online.

All of the educational content shared at two recent AFS virtual conferences – the Sand Casting and Additive Manufacturing Conference and the AFS Environmental, Health & Safety Conference – is available on demand, so metalcasters can learn about the latest industry research, case studies, and more on their own schedules.

Both events are hosted on AFS OnLive, a new web platform that enables attendees



**Kelley Kerns (HA-International) delivers a presentation at the Sand Casting and Additive Manufacturing Conference.**

to take part in technical and management presentations, Q&A sessions, panel discussions, exhibitor showcases, and much more.

One major benefit of OnLive conferences is the ability to stream educational content

on any browser, during the live event and for the next 12 months. Live attendees and new registrants are able to watch and re-watch sessions at any time.

The Sand/Additive Conference includes more than 25 industry leaders sharing case studies and success stories about improving foundry operations. The EHS Conference features more than 40 presenters covering all aspects of EHS in foundries, from air emissions to incident investigations to silica compliance.

Sand/Additive content is available to stream through Aug. 31, 2021, and EHS content can be streamed through Oct. 5, 2021. To register for on-demand access, visit [onlive.AFSinc.org](http://onlive.AFSinc.org).

## AFS RESEARCH

## Research Board approves 3 projects

The use of 3D printed sand is growing, and initial feedback shows it to be one of the most precise sand casting processes. But very little is known in the public domain about its dimensional tolerances.

A research project monitored by the

AFS Additive Manufacturing Division will attempt to identify and provide guidelines for improved dimensional tolerances with 3D printed sand iron castings.

Dimensional Tolerance Assessment Using 3D Printed Sand Casting Process was approved this summer by the AFS Re-

search Board. Principal investigators are Jiten Shah, Product Development & Analysis, and Tyler Nooyen, Waupaca Foundry.

Additionally, new research into green sand control tools and iron Life Cycle Analysis is moving forward after gaining approval from the AFS Research Board this fall.

The goal of the first project, Dynamic

Please see Research on Page 5

# CHECK OUT WHAT PUBLICATIONS THE AFS STORE HAS TO OFFER!

## 2020 TRANSACTIONS

The 2020 Transactions of the American Foundry Society includes technical papers encompassing a wide range of metalcasting technology. The papers cover the latest metalcasting research, process & equipment developments & foundry best practice case studies.



## METALCASTING DICTIONARY, 3<sup>RD</sup> EDITION

With over 5,800 metalcasting terms, this dictionary is essential to anyone working in the metalcasting industry—from administrative staff to the board room, to the designer, engineer and educator, the industry supplier, to the molder on the foundry floor, to the college student. **(Digital Download)**



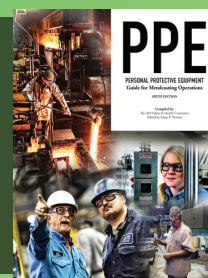
## ALUMINUM CASTING TECHNOLOGY, 3<sup>RD</sup> EDITION

Aluminum Casting Technology has become one of the key resources for aluminum metalcasting personnel throughout North America and the world. The aluminum shape casting industry has grown considerably over the past 25 years with many expanded product applications, especially in the automotive sector. Aluminum casting usage in the military, aerospace, electronics industries, and other commercial applications also have grown as light-weighting and energy conservation have gained momentum, taking advantage of aluminum's inherent benefits.



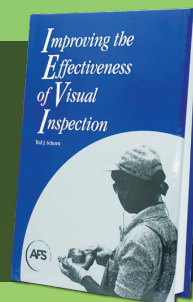
## PPE GUIDE FOR METALCASTING OPERATIONS, 6<sup>TH</sup> EDITION

The sixth edition of the PPE Guide for Metalcasting Operations describes and updates the special considerations for the selection and use of personal protective equipment (PPE) and special clothing for work situations that present a risk of exposure to metalcasting hazards. **(Digital Download)**



## IMPROVING THE EFFECTIVENESS OF VISUAL INSPECTION

Written by quality inspection expert, Ted J. Schorn, this book is based on his first-hand experience in examining different methods of improving visual inspection procedures to minimize and/or eliminate quality issues in manufactured products.



## EHS Division honors individuals, Corporate Members

The AFS Environmental, Health and Safety Division recognized the exemplary work of individual and Corporate Members during the October 2020 virtual EHS Conference.

Receiving the division's **2020 Service Awards** were Greg Kramer (ME Elecmetal, Duluth, Minnesota) and Brent Charlton (Metal Technologies Auburn LLC, Auburn, Indiana). These annual awards honor members for their volunteerism and major contributions to the EHS Division over many years, and for notable achievements in their professional fields.

Mickey Hannum (McWane Inc., Birmingham, Alabama) was the recipient of the **2020 Gary E. Mosher New Member Award**, which recognizes people who actively participate in committee activities and who make a meaningful contribution during their first two years of membership.

The recipient of the **2020 Jonathan Stone Outstanding EHS Contribution Award** was Craig Schmeisser (Mad River Strategies LLC, New Bremen, Ohio). This award honors people who have made significant and valuable EHS-related contributions to the metalcasting industry in the recent past.

On the Corporate Member side, the division presented awards in eight categories.

**Green Foundry Awards** recognize companies which have taken significant and novel approaches to improve sustainability, reduce energy and resource use, decrease or eliminate waste

generation, reduce toxicity, identify beneficial re-use options for spent materials, and generally reduce their environmental footprint. Waupaca Foundry Inc. (Waupaca, Wisconsin) received this year's **Green Foundry Sustainability Award**. Receiving the Green Foundry Innovation Award was McWane Ductile Utah (Provo, Utah). John Deere (Waterloo, Iowa) was presented with the Green Foundry Community Engagement Award.

**EHS Safety Innovation & Insight Awards** were presented to ME Elecmetal, Duluth, Minnesota, (Health Award); Novis Works, Canton, Ohio (Insight Award); and Clow Valve, Oskaloosa, Iowa (Ergonomics Award and Safety Award). These awards honor innovative practices, programs, and projects that make plants safer, healthier or more ergonomically friendly places to work.

Recipients of **AFS Safe Year Awards**, which recognize AFS Corporate Member facilities which have achieved one year without a lost-time incident, were:

- Aalberts Integrated Piping Systems (Matthews, North Carolina)
- Alliant Castings (Winona, Minnesota)
- BCI Solutions (Bremen, Indiana)
- Bremen Castings (Bremen, Indiana)
- BRP (Spruce Pine, North Carolina)
- Gartland Foundry Co. (Terre Haute, Indiana)
- HA-International (Westmont, Illinois)
- HA-International-Oregon (Oregon, Illinois)
- Hiler Industries, Accurate Castings (La



**A Green Foundry Award is presented to Waupaca Foundry during the virtual EHS Conference.**

Porte, Indiana)

- Hiler Industries, Kingsbury Casting Division (Kingsbury, Indiana)
- JR Hoe & Sons (Middlesboro, Kentucky)
- Oil City Iron Works (Corsicana, Texas)
- Pier Foundry & Pattern Shop (Saint Paul, Minnesota)
- Schaefer Group-Beavercreek (Beavercreek, Ohio)
- Schaefer Group-Blue Ash (Blue Ash, Ohio)
- Schaefer Group-Dayton (Dayton, Ohio)
- Schaefer Group-Knoxville (Knoxville, Tennessee)
- Schaefer Group-Louisville (Louisville, Kentucky)
- Schaefer Group-Perrysburg (Perrysburg, Ohio)
- Stainless Foundry & Engineering (Milwaukee, Wisconsin)

AFS congratulates all winners of this year's EHS awards.

### Research continued from Page 3

Testing and Analytics from Working Green Sand System, is to provide a statistical model demonstrating the ability of newly developed "dynamic" green sand control tools to augment standard tests and effectively detect near real-time process shifts affecting casting quality. The tests and strategy

will reveal the influence of Advanced Oxidation (AO) bentonite treatment on green sand stability, scrap rate, energy signature, dimensional stability, and labor per shipped unit at a working green sand foundry. Trial results will apply similarly to non-AO treated green sand systems.

The second project, Iron Casting Life Cycle Analysis, will develop a Life Cycle

Analysis (LCA) model to characterize the energy consumption and greenhouse gas emissions for cast ductile iron parts and wrought steel equivalents.

AFS research, which is important to the future viability of our industry, is funded primarily by Corporate Membership dues. To learn more about AFS research, visit [AFSinc.org/research](https://www.afsinc.org/research).

### Legislators continued from Page 1

tus for foundries at the start of the pandemic, among many other COVID-19 policies.

Other key issues advocated by the society

include investing in infrastructure, supporting fiscal policies that encourage growth, strengthening workforce development programs, vigorous enforcement of trade laws,

and reforms to eliminate outdated and overly-burdensome regulations. To view the AFS Policy Agenda, visit [AFSinc.org/afs-agenda-strong-metalcasting-economy](https://www.afsinc.org/afs-agenda-strong-metalcasting-economy).



# AFS seeks papers for Foundry Industry 4.0 Conference

Conference set for June, submissions due Dec. 15

AFS has issued a call for papers and presentations for its 2021 Foundry Industry 4.0 Conference, scheduled for June 8-9, 2021 in Itasca, Illinois, near O'Hare International Airport.

Industry 4.0 is no longer just about the future. Smart, proactive manufacturers are using innovation and technology today to improve productivity, profitability, and worker safety. This conference will

address what metalcasters need to know about Industry 4.0 now to make smart investments and gain a lasting business advantage for their foundries.

AFS is seeking papers and presentations on digital manufacturing and how it affects all areas of the manufacturing process today. AFS is also seeking practical case studies demonstrating successful implementation of digital technologies.

Proposals are due by **Dec. 15, 2020**. Submit potential presentations, including topic and abstract, to AFS Senior Technical Associate Bo Wallace, at [bwallace@afsinc.org](mailto:bwallace@afsinc.org).

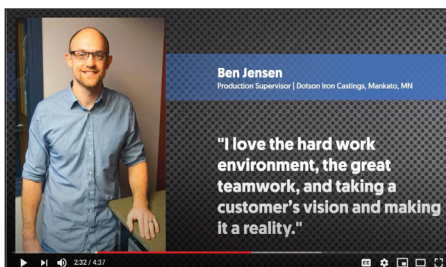
For more information, visit [AFSinc.org/](https://AFSinc.org/)

## FOUNDRY INDUSTRY 4.0 CONFERENCE KEY TOPICS

- Data collection and management
- Data-driven decision-making
- Artificial intelligence
- Augmented reality
- Wearable technology
- Robotics and co-bots
- Automation
- Cyber security
- Related issues of workforce development, recruiting, and training

[conferences/foundry-industry-40-conference](https://conferences/foundry-industry-40-conference).

## STUDENT OUTREACH



A screengrab from a new AFS video, "We Love Metalcasting."

## AFS unveils four career videos

Recruiting new employees to the metalcasting industry is always important. With that in mind, AFS has provided companies with new resources for use in outreach to students and prospective employees and in conjunction with annual Manufacturing Day programs and related initiatives. These resources can be used in a variety of ways, including being shared with local educators for use with their students.

Included are several newly produced short, fast-paced AFS videos: "Castings: Wherever You Are," "Foundry in a Box: Demonstration," "3D Printing" and "We Love Metalcasting." The videos, along with other outreach tools, are available at [AFSinc.org/manufacturing-day](https://AFSinc.org/manufacturing-day).

## UPCOMING INSTITUTE COURSES

- Green Sand Molding 201: Live Online | Dec. 1-3, 2-6 p.m. (CT)
- Gating & Riser Design 101: Live Online | Dec. 8-10, 2-6 p.m. (CT)
- Iron Melting 201: Live Online | Dec. 15-17, 1-5 p.m. (CT)
- Iron Metallurgy 201: Live Online | Jan. 12-14, 1-5 p.m. (CT)
- Introduction to Metalcasting: Live Online | Jan. 19-21, 1-5 p.m. (CT)
- Casting Defect Analysis: Live Online | Jan. 26-28, 1-5 p.m. (CT)

## Learning continued from Page 1

curriculum. Popular modules are available in Spanish as well as English, and since they can be completed on any browser, they're ideal for socially distanced offices.

For people who prefer to learn in the classroom, the Institute's live online courses have proven hugely popular, even if the "classrooms" are their own computers. Hosted on Zoom, the Institute's live online courses are taught by the same experts who teach classroom courses. They also cover the same material as classroom courses, including breakout group activities, without requiring students to travel.

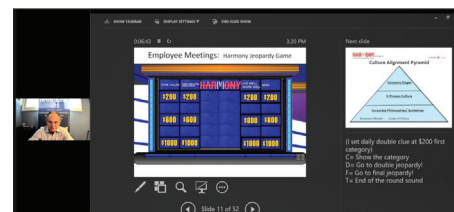
"I've benefited a lot from in-person AFS classes in the past. However, with all my responsibilities at the foundry, it's very hard to get away for a few days to take a class with AFS," said Ryan Cakora, a plant manager for Tazewell Machine Works who completed Gating & Riser Design 101 and 201 in the classroom and Casting Defect Analysis and Aluminum Metallurgy 201 live online. "Virtual classes work great for me because they give me added flexibility. I still get close to a full workday at the plant."

Kolin Sesselmann, an engineer at Eagle Aluminum Permanent Mold Castings, said he was "skeptical" of online courses because he was concerned it would be difficult to network.

"After taking my first online course, I learned the AFS course structure treats networking, diverse knowledge backgrounds of the individual, and team-building as foundational to the course material itself," said Sesselmann, who has completed Introduction to Metalcasting, Casting Defect Analysis and Aluminum Metallurgy 201, live online. "... Instructors encourage participants to share experiences and current problems faced in the foundry because someone in the class could have just solved that problem and is eager to help."

Since June, The Institute has trained over 150 people virtually and continues to schedule a full slate of live online courses covering a wide range of topics. Hard copy student materials are sent in advance, and group discounts for three or more are available. For more information or to register, visit [AFSinc.org/courses](https://AFSinc.org/courses). For questions, email Jen Christian, Director of Training Solutions, at [jchristian@afsinc.org](mailto:jchristian@afsinc.org).

## Any History Buffs Here?



Clockwise from left are screengrabs from recent Northwestern Pennsylvania, Pittsburgh and Piedmont Chapter Zoom meetings.

# Chapters engage with members online

More than ever, AFS Regional Chapters are turning to remote meetings and virtual get-togethers to keep their members engaged and their networks active.

With the COVID-19 pandemic limiting in-person events, chapter leaders have had to get creative when it comes to connecting members from throughout their regions, which sometimes stretch across multiple states.

For many, this means holding meetings on Zoom or similar web meeting platforms that allow chapters to conduct their regular business while also providing networking, technical or management discussions, or a combination of all three. AFS Regional Chapters are run by volunteers and facilitate AFS activities at the local level, hosting educational events, social get-togethers, networking opportunities, regional conferences, scholarship fundraisers and more.

For the Northwestern Pennsylvania Chapter, these web meetings have included welcoming "visitors," including three Penn State Behrend students who shared their internship experiences with members during a Virtual Student Night on Oct. 20. More recently, NWPA hosted AFS President Mike Lenahan (KB Found-

ry Services) on Nov. 16 for a Zoom presentation covering AFS policy priorities, member involvement opportunities, and even a little history lesson on the pride of manufacturing during World War II, which drew on Lenahan's father's experience in the service.

Like NWPA, the Central Ohio Chapter also hosted a Virtual Student Night in October, this one for Ohio State University students. Chapter members heard web presentations on OSU's metalcasting program and its ongoing projects, and also presented funding for a scholarship to the university. In November, the chapter held a virtual seminar on 3D printing that featured a presentation from Brandon Lam-oncha of AFS Corporate Member Hum-town Products.

Pittsburgh and Birmingham have also joined in on creating virtual content for their members. On Nov. 9, AFS Board Member Andy Renkey, drawing on his experience as President of AFS Corporate Member Harmony Castings, shared his insights on company culture and employee retention with the Pittsburgh Chapter. Later in the month, Birmingham Chapter members took part in a web-based technical session on 3D binder jet printing technologies pre-



**AFS Chapters across the country are holding web-accessible events for members. To see what's happening in your area, visit the AFS Chapter Calendar at [AFSinc.org/regional-chapters](https://AFSinc.org/regional-chapters). To include your chapter's meetings in the calendar, just send your event invitation to [membership@afsinc.org](mailto:membership@afsinc.org).**

sented by Dan Brunermer of Corporate Member ExOne.

These chapters are far from the only ones hosting web events for their members – and in some cases, members from other chapters are welcome to attend, too. To get involved with your local chapter, or to learn more about AFS Chapters and events, visit [AFSinc.org/regional-chapters](https://AFSinc.org/regional-chapters).





# AFS ENERGY PROGRAM

**AFS** is proud to partner with **APPI Energy** to provide our **Corporate Members** with data-driven solutions designed to make their businesses more profitable by reducing their electricity and natural gas supply costs.

**APPI Energy's** proprietary database of more than **250 million records compiled over 23 years of transaction experience** enables them to benchmark historical and real-time prices in every deregulated market. Every day **APPI Energy** updates and reviews thousands of prices from vetted service providers in all markets. This platform allows them to deliver accurate and immediate apples-to-apples price comparisons.

After identifying the options, **APPI Energy** consultants provide recommendations on pricing, market timing and length of contract using data analytics and their proprietary database.

After securing a supplier, their customer service team interacts on your behalf with utilities and suppliers to ensure smooth transactions. During 2019 **APPI Energy** resolved 896 customer service cases related to billing accuracy, billing error resolution, and credit issues. They also continually evaluate utility programs and regulatory policies to identify opportunities for reimbursements and financial incentives that save you money. For example, they can determine if you qualify for energy sales tax exemptions and secure refunds at no cost to you.

Additionally, APPI Energy can consult and provide guidance on the energy management strategies, energy efficiency projects, Demand Response programs, alternative energy solutions and real-time energy management systems.

To learn more and take advantage of this **AFS Corporate Membership benefit**, contact **APPI's Drew Pangborn at 667-330-1164** or visit **[www.appienergy.com](http://www.appienergy.com)** and **reference your membership in AFS** by company name.





# AFS WELCOMES NEW CORPORATE MEMBERS

Through Oct. 31, 2020



**Adalet**  
Cleveland, Ohio



**Altair**  
Troy, Michigan



**Bimac Precision Castings**  
Dayton, Ohio



**DR Metals**  
Brenham, Texas



**Ferro Dokum San Ve Dis Tic A S**  
Gebze, Kocaeli, Turkey



**Georgia-Pacific Chemicals LLC**  
Atlanta, Georgia



**ITT Goulds Pumps**  
Seneca Falls, New York



**Mancuso Chemicals Ltd.**  
Niagara Falls, Ontario, Canada



**Pattern Services LLC**  
Green Bay, Wisconsin



**Quaker City Castings Inc.**  
Salem, Ohio



**Rhino Tool House**  
New Berlin, Wisconsin



**River Valley Recycling LLC**  
Kankakee, Illinois



**Titan Robotics Ltd.**  
Colorado Springs, Colorado



**The Wasmer Company LLC**  
Sheboygan, Wisconsin



**Webb Wheel Products Inc.**  
Cullman, Alabama



# AFS Corporate Member Advantage

## **Industry Intelligence**

### **Bi-Annual Metalcasting Forecast**

- This crucial marketplace outlook is free to corporate members (\$1,000 value)

### **Wage and Benefit Survey**

- Key compensation information, free to participating corporate members (\$1,000 value)

### **World Foundry Organization Annual Census**

- A look at the state of the worldwide metalcasting industry is delivered free to corporate members

## **Workforce & Career Development**

### **Leadership Training & Sustainability**

- AFS trains the current and future leaders of metalcasting

### **Building the Next Generation of Metalcasters**

- Student chapters, Institute training, foundry demonstrations, Melting Point magazine and more attract new talent to the industry

### **Regional Chapters**

- Individual members may join AFS regional chapters

### **Casting Connection**

- Members can network, ask questions and get answers from peers through this metalcasting social network

### **Industry Job Descriptions**

- AFS' complete, detailed list of metalcasting industry job descriptions is available for corporate members to use for recruiting, evaluations, or other workforce needs

### **Metalcasting Job Board**

- Corporate members get a 50% discount when they post jobs on the AFS Job Board

### **Event Discounts**

- Save on registration for educational and networking events hosted by AFS (discounts vary)

## **Government Advocacy**

### **Legislative Influence**

- On Capitol Hill, AFS shapes a better business climate for metalcasters

## **Education**

### **In-Plant Training**

- Corporate members receive special rates on in-depth training at their facilities (\$2,000-\$4,000 discount)

### **Classroom Courses**

- Receive discounts on classes for new and experienced metalcasters (\$200 discount per person)

### **Free AFS Members Only Webinars**

- All individual members and employees of corporate members participate in technical and management webinars (\$250 value per session)

### **E-Learning**

- Only corporate members are eligible to subscribe for unlimited access to AFS Institute e-Learning in English and Spanish

## **Technical/Management/**

## **Research Support & Innovation**

### **Driving Research**

- 8% of corporate dues support AFS research, including 40 projects currently underway

### **Committee Membership**

- Individual members are eligible to sit on AFS committees, which conduct cutting-edge research and help establish industry standards

### **Technical Assistance**

- The AFS technical services team is ready for your calls on technical, metallurgical, and EHS questions, and casting design assistance, with top priority going to corporate members

### **HR Consulting**

- AFS provides foundry-specific insights and assistance for your human resources needs

### **Energy Consulting**

- AFS can help with questions about energy costs, consumption and efficiency

## **Books & Publications**

### **Modern Casting**

- A subscription to one of the industry's leading trade magazines, delivered monthly (\$109 value)

### **International Journal of Metalcasting**

- A subscription to AFS' metalcasting research journal (\$199 value)

### **Member Connections**

- A quarterly publication featuring industry, AFS and chapter news

### **Book Discounts**

- Get price breaks on AFS-published technical books (Discounts vary)

### **AFS Library**

- Receive full online access to the AFS Library, the world's largest collection of metalcasting research papers and articles

### **AFS Insider News**

- Stay up-to-date on industry news and AFS events with this weekly e-newsletter

## **Business Opportunities & Branding**

### **AFS Health Insurance Program**

- Affordable healthcare options for corporate member's employees and their families via NAM Health Care

### **AFS Energy Program**

Reduce electricity and natural gas costs with AFS' Energy Program **Trade Show/Exhibit Space Discounts**

- Save money on exhibits and attendance at CastExpo and Metalcasting Congress (discounts vary)

### **Sponsorships**

- Only corporate members are eligible to sponsor AFS events

### **Referrals**

- AFS refers all phone, e-mail and online inquiries to corporate members

### **Logo**

- Corporate members can add credibility to their business by using the AFS logo on brochures and websites

### **Premium Casting Source Directory Promotion**

- Receive prime placement in CSD, used by an audience of nearly 25,000 casting buyers and design engineers

### **AFS Shipping Solutions**

- Take advantage of shipping savings and more with AFS' shipping program (savings vary)



## AFS EVENTS

**Sand Casting and Additive Manufacturing Conference** | On demand through Aug. 31, 2021 | [online.AFSinc.org](https://online.AFSinc.org)

**Environmental, Health & Safety Conference** | On demand through Oct. 5, 2021 | [online.AFSinc.org](https://online.AFSinc.org)

**Metalcasting Congress 2021** | Live online April 12-22, 2021 | [metalcasting-congress.org](https://metalcasting-congress.org)

**2021 Practical Cupola Workshop** | May 18-19, 2021 | Rockford, IL

## INSTITUTE COURSES

**Green Sand Molding 201: Live Online** | Dec. 1-3, 2-6 p.m. (CT)

**Gating & Riser Design 101: Live Online** | Dec. 8-10, 2-6 p.m. (CT)

**Iron Melting 201: Live Online** | Dec. 15-17, 1-5 p.m. (CT)

**Iron Metallurgy 201: Live Online** | Jan. 12-14, 1-5 p.m. (CT)

**Introduction to Metalcasting: Live Online** | Jan. 19-21, 1-5 p.m. (CT)

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*Member Connections* is a newsletter for all current AFS members. Send all inquiries to Katelyn Stanek at [kstanek@afsinc.org](mailto:kstanek@afsinc.org) or 847-824-0181 ext. 286.



AFS Institute

## Upcoming LIVE ONLINE Courses

The AFS Institute is offering introductory and career-advancing courses **Live Online**. Get the tools and knowledge you need from the comfort of your own home or office via Zoom.

### Iron Melting 201\*

Dec. 15 - 17  
1 - 5 p.m. CT

This course provides a detailed coverage of iron melting and related processes.

### Iron Metallurgy 201\*

Jan. 12 - 14  
1 - 5 p.m. CT

This course provides participants with knowledge and skills regarding terminology, principles, and techniques for the metallurgy of gray and ductile iron casting alloys.

### Introduction to Metalcasting

Jan. 19 - 21  
1 - 5 p.m. CT

This course introduces the process of metalcasting. It provides a broad picture of what happens in a casting production facility, while illustrating the technology, variables and complexity involved in producing a casting.

### Casting Defect Analysis

Jan. 26 - 28  
1 - 5 p.m. CT

Participants will become proficient in applying a ten-step procedure that will enable them to analyze and reduce metalcasting defects by correctly identifying defects, root causes, and determining corrective action.

\*No prerequisites required.

Check out all the AFS Institute's upcoming courses online at [afsinc.org/courses](https://afsinc.org/courses).

### Questions?

Contact **Jen Christian**, Director of Training Solutions, at [jchristian@afsinc.org](mailto:jchristian@afsinc.org).