



**Casting Industry –  
the career choice for  
makers, creators,  
and innovators**

## Melting Moments – December 2024

### Visits and Events

- NZ Conference Report

### Calendar events for 2025

- Wednesday 19<sup>th</sup> February 2025  
CSIRO Lab22 site visit  
Additive Manufacturing –Gary Savage
- Friday 28<sup>th</sup> February 2025  
Annual Technologists Picnic, Sovereign Hill,  
Guest Speaker - Hasco Foundry's - Adam  
Hassell

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### Victorian President's Report

And so, we come the end of another jam-packed year. At the risk of repeating previous EOY reports, I am so proud of the stellar year we have had. Once again our remarkable committee put together an excellent series of presentations, site tours and plant visits both within the Melbourne Metro area and out to regional Ballarat and Geelong. Many thanks to all the companies that allowed us to tour their facilities, it is always greatly appreciated by all. If you know of anywhere we could visit, please let myself or Alan Cooke know, or set up an introduction so we can introduce our Industry and start the dialog for a tour.

Sadly, this year we have farewelled some very special, nay, legendary members of our Victorian metal casting community. We say farewell to Bill Pratt, Malcom Snowden and Doug Evans. The year began for most of our members and associated businesses with full to overflowing order books. However, we were all faced with the challenges the ongoing war between Russia and Ukraine and the Israeli – Palestinian conflict. This resulted in increasing pressures on the cost of living/doing business through rising prices of consumables, freight and energy pricing continuing northwards. Each of these along with interest rates contributed to inflationary pressures. Although

there is likely to be some challenges in January, hopefully the year ahead brings some relief for businesses and domestic financial pressures with interest rates predicted to reduce.

The Australian Institute of Engineering (AIE), our AFI RTO, has had an incredibly successful year, not only expanding their training of our Foundry Apprentices in Casting and Moulding into other states, but also working on the modules for delivery of the Patternmaking Apprenticeship. AIE have also been awarded the Small Training Provider of the Year at the Victorian Training Awards late August. This achievement is not just a win for AIE, but a testament to the collaborative efforts and unwavering support between AIE and the AFI. It is also evidence of what hard work, diligence and dedication, no matter the size of the organization, can achieve! We are proud to collaborate with AIE.

At our AGM we honoured our 2024 Achiever of the Year – Lachlan Rollo – IXL Castings - Apprentice Moulder and we were elated to induct Garry Yeates - Beckwith Group - as our 2024 Legend. What a night it was!!

In honour of AFI Legend Bill Pratt – this year AFI Vic created a perpetual award in his name – The Bill Pratt Award for Excellence to be presented to the AFI Achiever of the Year. The award is designed to be kept in a prominent position at the employer and a smaller version is presented as a keepsake for the Achiever. As this was the inaugural year we were delighted to have in attendance at the Achievers and Legends night Bill's son Geoff – who presented the award along with his sister – Janine, Geoff's wife Liz, cousin Tracey and husband Paul.

I am pleased to announce after we held our AGM on November 20<sup>th</sup> our AFI 2025 Executive and Committee Members as follows:

- Amber Maxwell – President
- Alan Cooke - Secretary
- Murray Brown - Treasurer

Committee Members:

Adm Hassell, Sean Boswell, Rod Dalla Via, Garry Savage, David Sykes (MM Editor) Sam Tyagi, Oliver

Perkins and our newest member from Tasmania Castings - Dean Lalor.

We bid a very fond farewell and huge thank you for years of service in the AFI Committee in many roles including President to Wolfgang Maier. Wolfgang you have been a huge part of the AFI Victorian committee and the industry for decades, for this we thank you from the bottom of our hearts we will miss you, but we are not going to let you go that easily.

I'd like to wish everyone a safe, happy, healthy and Merry Christmas and a wonderful New year. I look forward to working with and seeing many of you as the year rolls around - and don't forget if you haven't already saved the date, lock into your calendars October 16 – 18<sup>th</sup> 2025 for the AFI 59<sup>th</sup> Annual National Conference hosted by AFI NSW in world class location, Darling Harbour, Sydney. **\*\* More details to follow early in 2025.**

Amber Maxwell – AFI Victorian President

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### **AFI National President's Report**

As we enter Q4, we sadly remain impacted by the continued war in both Russia - Ukraine & Israel – Palestine.

Reports on global trade show a definite slowing of economies with the most impactful on the Australian economy being the reduction in iron ore pricing due to a reduction in Chinese demand.

The biggest change for the globe will occur in January with Trump being inaugurated for his 2<sup>nd</sup> tilt at the Presidency. His electioneering spiel of increasing tariffs on Chinese, Canadian & Mexican imports into the US market will have impacts on opportunities & risks for Australian foundries, but there may be a gap between the 'talk of tariffs' versus the application of the tariffs – certainly an interesting wait & see.

In the domestic setting the CPI is decreasing, but too slowly for the RBA. Consequently, the continued reporting of cost-of-living crisis keeps the mood of the majority in a forlorn state. Our industry appears to be seeing a softening of order books across a number of members.

The electricity & gas pricing and supply for every State continues to highlight the lack of leadership from State & Federal governments to address the fundamental flaws in the cost & level of generation rather than resorting to the weakest of actions –

doling out cost of living handouts to partially cover the electricity & gas cost increases.

The energy regulator (AEMO) has forecast gas shortfalls despite our country being in the top 2 exporters of LNG to the global market. For exporters to continue to sell on spot shows that the predicted gas shortfall caused by outputs being 'contracted to buyers' is BS & needs to be called out. That our country is seriously considering an LNG import terminal to address the shortfall is the most ridiculous suggestion in the efficient use of our resources. To reiterate my statement from prior quarters - the posturing of each major political party in both Federal & State levels does NOTHING to replace the sensible actions that have been absent from State & Federal Governments for the past 30+ years. Until the governments fill the generation gaps that their sale of assets and the inevitable closure of coal fired power stations has accelerated, we will continue to pay exorbitant costs for both gas & electricity.

From an AFI National perspective the 2024 conference hosted by CTNZ in Christchurch was extremely well supported and definitely well organised. We look forward to the 2025 conference planned by NSW AFI at Darling Harbour.

Our membership of EUAA has continued giving our members both more detailed information and a stronger voice in dealings with State & Federal governments.

Please remember we need to know the issues each member is facing to enable the State & National bodies to advocate on your behalf, to enable the AFI to represent the industry effectively.

In closing I wish everyone a safe & joyous Christmas and in particular want to thank for their tireless efforts the State & National executive office bearers over the past year. Let's focus on working with our customers & suppliers to make, create & innovate for the health of our individual businesses & the industry overall.

Brett Lawrence – AFI National President

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## AFI (Vic) AGM, Legends and the Bill Pratt Achievers Award

The AFI Victorian Achievers and Legends Presentation Night was a true celebration of excellence, dedication, and community spirit within our industry.



Presented by Geoff Pratt, son of Bill Pratt



Proud parents



Lachlan with work colleagues

Congratulations to **Lachlan Rollo**, the well-deserving recipient of the **Achiever of the Year** award and the first to receive the newly created Bill Pratt award for excellence. Lachlan's remarkable

contributions and unwavering commitment have set a benchmark for professionalism and innovation in our field. Your efforts inspire all of us to strive for excellence. As this was the inaugural year of this award, we were honour to have members of Bill's family in attendance on the night to present this award to Lachlan.

This year we were privileged to induct **Garry Yeates**, as the **AFI Victorian Legend of the Year**. Garry's longstanding service, leadership, and passion have left an indelible mark on our industry. His legacy exemplifies the values that the AFI community holds dear, and we are privileged to count him among our legends.

This night is always well attended and as always, we had a number of previously inducted Legends in attendance, along with a ring-in from north of the border!

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### In Brief

- 2024 Victorian Manufacturing Hall of Fame Awards - The Manufacturing Apprentice of the Year Award was a tie with Levi Konnerth, an apprentice at A.W.Bell Machinery in Dandenong South.
- 2024 WFO Jozef Suchy Medal to Prof Milan Horacek (Czech Republic) for meritorious services to the WFO
- Photo challenge. Send in your brag and a few words.
- Suppliers, free advertising with a short technical article.
- Do you want to acknowledge a stalwart?
- Hatches, Matches and Despatches.
- A short history a yesteryear, with photos.
- Send in your challenges, like below.

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### A challenge

- What is the origin of the name IXL in the company Backwell IXL.
- What came first, the Jam or the Stove.

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## Foundry in a Box

The FiaB juggernaut continued on with a further 4 workshops completed in Ballarat schools in November. David Tatti (Outlaw Castings) and Adam Hassell (Hasco Foundry) contributed their valuable time to assist in these workshops that raise awareness of the Australian metal casting industry with both students and teachers, and is generating interest in work experience and potential apprenticeships.

In total we've had 13 workshops in 2024.

At the Geelong Manufacturing Council's 2024 school involvement graduation programs, the AFI Vic and the FiaB program was acknowledged as a sponsor. And keen participation by the students.

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## Energy Users Association of Australia

The EUAA has scheduled three one-hour online meetings for Feb 2025 for each of the Electricity Committee, Gas Committee and the Energy Transition Working Group.

If you wish to join online please contact Alan Cooke [agcooke52@gmail.com](mailto:agcooke52@gmail.com) for the meeting link.

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## Ai Group Industry Policy – Tennant Reed Energy Update webinar on 7 November 2024

AIG members have access to the webinar.

Energy update: quick hits

- Global oil prices are boring despite exciting times
- ME war implications?
- Global and local gas prices are pretty stable
- Electricity prices are moderate
- Data center demand growth & electricity networks

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## The 2024 Victorian Foundry Industry Legend

### Garry Yeates

Garry joins the ranks of the AFI Vic Legends – well deserved and congratulations.

Garry commenced an apprenticeship in Patternmaking in 1984 at Masport Foundries NZ, followed by technical schools in Wellington and Auckland NZ, the Swinburne University in Melbourne.

He then worked at AG Price, Sika Technologies, Pro-Topline Cylinder Heads, Harrop Engineering, private consulting and now with the Beckwith Group.

Garry is proud of his work achievements and supporting around 70 apprentices via an RTO.

Along the way Garry acknowledged the help of many mentors, in trades and foundry practice, management, business, and dealing with customers.

A question that is always asked, and some are reluctant to respond, is acknowledging a “learning experience”, of some basic mistake. With Garry, (and we all have our own “mistakes”), was the cross jointing by reversing the cope during close-over, of a 120 kg steel casting!



Gary was an active member of the AFI Vic being on the Committee since 2004, and a President for four years to 2014.

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## Congratulations to our RTO Australian Institute of Engineering

On being recognised as one of Australia's Top 3 Small Registered Training Organisations.

AFI are proud of our association with AIE for a number of years and appreciate their support of both our apprentices and future industry leaders and also of AFI as a whole.

Huge congratulations to Sam, Trapti, Brett and the whole AIE team. This acknowledgement is proof



that determination, commitment and perseverance does pay off. We look forward to working with you again in 2025



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## Occupation Shortage List

The updated 2024 Occupation Skills List (OSL) has been released. All of the occupations that are important to our industry are included on the OSL as being in shortage.

This means that if you do want to explore skilled migration to fill your vacancies, then you do have some chance of the Govt granting a working visa once you've found a likely employee.

There is one anomaly – for NSW, the OSL shows No Shortage for 323411 Engineering Patternmaker or 322114 Metal Casting Trades Worker. This is a surprise. Speculation is that the vacancies that do exist in NSW are not being advertised. Note that Jobs Skills Australia base the OSL on advertised vacancies.

JSA are already planning for an update to the OSL, and invite all employers and industry bodies to complete a survey.

### From JSA – Workforce Analysis Team :-

*We would like to invite you to participate in the 2025 Occupation Shortage List (OSL) Stakeholder Survey. You have on-the-ground knowledge and experience of recruitment activity in your industry and your participation in this survey will improve the evidence we use to identify occupations in shortage. Your input is highly valued and appreciated.*  
[Register now to get involved.](#)  
The survey closes on **Friday 7 March 2025 at 5pm (AEDT).**

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## Richie's Review

It's October 2075 and GarSav has been kept late at work at CSIRO (C=Chinese) and will miss the start of JonCam's lecture on his great, great grandfather's 7th rule of casting entitled "What was Rock and Roll?"

N.B. The need for Christian and family names has long been eliminated due to (1) the collapse of marriage as an institution and (2) the right of all people to identify as any gender, plant, animal or inanimate object (in fact SlaGor are currently involved in a class action against the French Government for a proportion of their tourist income on behalf of the 173 Australian Chinese who identify as the Eiffel Tower).

GarSav puts his sospod (sos=speed of sound) into sos gear and tunes into the lecture on his sospodcast which is broadcast live. He is unable to contain his characteristic of interrupting the speaker with questions and has voiced 27 of them by the time he arrives at the lecture theatre. He parks his sospod in one of the apertures built into the wall (all major buildings have sospod apertures in which the door of the sospod is adjacent to a door in the wall of the building, so the driver just steps straight into the building).

Many of you will have already realised that because he has been travelling at the speed of sound, as GarSav enters the room, so do the 27 questions. JonCam sees Garsav and hears all the questions simultaneously. He collapses under this wave of interrogation.

Specialists predict JonCam will make a full mental recovery but advise that, in future, he should only accept written questions at the end of his lectures. He will, however, live in constant fear of a reappearance of GarSav.

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## AROUND THE TRAPS

- Australian Manufacturing Week 2025. 6 to 9 May 2025  
AFI(Vic) and ADCA will have a stand showcasing the Australian Metal Casting Industry.
- A bronze casting produced by David Tatti (Outlaw Castings) was part of an installation at the Milan Fashion Week.

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The 2024 AFI (Vic) Annual Report can now be viewed on the AFI website.

The 2024 Industry report has also now been uploaded onto the website

Both are located:

<https://www.australianfoundryinstitute.com.au/industry-publications/#industry-publications>



Olds Engineering Adult Apprentices who made the Aluminium Carriage Spokes left Lachlan Hansen and Cameron Stuart.

Gold Leaf meticulously applied by Paula Church.

### 'Last royal coachmaker' says King's Carriage almost complete

AFI QLD member - WM Olds and Sons have been both pioneered and involved in many different and unusual projects over their long history but none quite so regal as the Royal Carriage projects, for the Queens Diamond Jubilee and now the Kings Carriage.

Robert Olds – Managing Director sent this to us to share with our members,

“It is actually hard to believe that local friend Kevin Banting carved the foundry patterns and that **our team** made these wheel spokes now covered in gold leaf. Amazing. To read the full article please click on the link below;

<https://www.abc.net.au/news/2024-12-08/king-charles-new-carriage-made-by-jim-frecklington/104658070>



### The CTNZ / AFI Conference “ShakeN not Stirred”

As I started the conference off with the words, “I have been told NOT to talk about the rugby.” I can start this article with the words, “let us talk about the CTNZ / AFI conference, Shaken not stirred”. I would like to start off by saying thank you to our generous sponsors who played a vital part and to say thank you to the delegates who joined us at the conference in Christchurch.

The conference started off on the Thursday with a jet boat ride around Christchurch where unfortunately some delegates were on the water while “the birds were still asleep”. There ended up to be three groups going out onto the water and all passengers were given the opportunity to steer and test out some of Hamilton Jets new technology on a very impressive boat.

In the afternoon Hamilton Jet and CW Fraser opened their doors and welcomed us in, giving us a very impressive tour through their facilities enabling us to get a small glimpse into their world standard production lines and daily life of each company. We were split into two groups where one group went to Frasers and the other group through Hamilton Jet and then changed over about an hour and half later. Once we had gone through the two companies we got together at Hamilton Jet for some tea and a catch up with old and new friends.

Thursday evening was kicked off with the president’s reception and followed by a fantastic quiz night, where we had some interesting metallurgical, general knowledge, sports, art and culture, and some other interesting questions. There were first and second place prizes with some other fun prizes to give away. Everyone present had a good evening filled with good banter and plenty laughter.

The presentation through Friday and Saturday were well balanced with a very interesting “History” lesson from our Guest Speaker to foundry technical papers from other speakers. Some suppliers also were also given the opportunity to present. I don’t think there was one delegate that walked away without learning something interesting in whatever their area of expertise lye.

2024 Achievers of the Year





Jack Fishburn – Weir Minerals



Lachlan Rollo – IXL



CTNZ Committee and Legend Steve Wellburn



Beaumont Wills – CWF Hamilton

Saturday night was to showcase our industry talents and those who have dedicated many years into making our industry what it is today. The live band after dinner got the dance floor rocking where many of us let our hair down and danced into the night.



AFI Legends

So, for all those who travelled afar (around 60% from Australia) and to those who were local (40% from New Zealand), to those presenting papers and to all industry award winners. It was wonderful to have a wide range of expertise and experience throughout the foundry industry. If you were a supplier, foundry person or a retired veteran of the industry, without you who were present at the conference it would not have been as successful as it was. It was wonderful to see old friends catching up reminiscing of days gone back and talking about the “new” coming in. There were very interesting discussions from delegates, speakers and suppliers having deep involved conversations trying to solve issues and come up with solutions that have popped up.

There is a website where one can download photos from the conference, please have a long look at them as most of the photos will actually tell you more of the conference than I have in this short note. Maybe next year we will be able to talk about the rugby, I can say for sure next year we will be talking about how great the conference in Sydney is. Until we all meet again, stay safe.

**Murray Speed**

**CTNZ Chairman**

The CTNZ board decided that Saturday night was to have a prestigious status and also themed the night as “007 James Bond”. It was great to see the ladies all dressed up in evening gowns and the men wearing the tuxedos.

Introducing and thanks to Jeff who has kindly agreed to be our guest technical contributor. Jeff has worked in the foundry industry for 50 years and is now providing solutions to Australian and International clients.

## **A Summary of Common Mould & Core Sand Binders**

**J. F. Meredith** Casting Solutions Pty Ltd

<https://www.castingsolutions.com.au/>

Mould and core sand binders can be classified in many ways such as chemical nature, physical form or hardening process. A convenient classification is by chemical nature such as – Inorganic and Organic.

### **Inorganic Binders**

#### *Clay:*

Of the clay mineral groups, montmorillonite, which is the principal constituent of bentonite, is the most significant for foundry sand binding application.

#### *Sodium Silicates:*

Aqueous sodium silicates have been in use as sand binders for many years in the CO<sub>2</sub> process and more recently in the ester/silicate process.

Hardening of sodium silicate is by dehydration and can be performed by the application of heat or by a wide variety of chemicals.

### **Organic Binders**

There are many varieties of resin binder used in the foundry some of the more common systems include:

#### *Acid Cured Furan Binders:*

The acid cured furans are a versatile group of binders using a furan resin and acid catalyst. The resins used are primarily composed of furfural alcohol (FA). The higher the furfural alcohol content, the better the potential properties of the material.

The speed of curing is controlled by the amount and strength of the acid catalyst used.

#### *Phenolic Urethanes Binders:*

The phenolic urethane system is a high-speed binder usually added in two parts. Part 1 is a phenolic resin in an organic solvent, with a liquid amine catalyst added. Part 2 is methylene diphenyl diisocyanate (MDI).

The speed of curing is controlled by the type of catalyst used in Part 1.

#### *Ester Cured Alkaline Phenolics:*

In this system, an alkaline phenolic resole resin is mixed with a liquid organic ester.

The speed of curing is controlled by the type of ester used. Strip times of 5 minutes to 2 hours can be achieved.

#### *Shell Process:*

The shell process uses a heat cured resin binder system and offers the benefits of excellent surface finish, good dimensional accuracy and breakdown.



Check out the 2025 AFI(Vic) Program. Note that we plan to live stream all presentations, so that wherever you are in Australia you can participate. Lock in the dates now!



### Australian Foundry Institute (Vic Branch) 2025 Program V2

Month	Date	Location	Topic	Presenter	AFI / ADCA Contact
Feb	Tues 11th	online	AFI National Council meeting		
	Wed 19th	CSIRO Lab22	Additive Manufacturing – site visit		Gary Savage
	Fri 28th	Ballarat, Sovereign Hill	MA Technologists Picnic Presentation	Adam Hassell	
Mar	8 <sup>th</sup> – 10th	Bendigo	Lost Trades Fair		Stuart McCorkelle
	Wed 19th	Village Green Hotel	Fluxes and Coatings presentation		Graham Wilson
Apr	Wed 16th	Ballarat	Mars Confectionary - site visit		Adam Hassell
May	6 <sup>th</sup> to 9 <sup>th</sup>	MCEC	AMW 2025		
	7 <sup>th</sup> to 8 <sup>th</sup>	Marvel Stadium	EUAA Conference		Alan Cooke
	Tues 13th	online	AFI National Council meeting		
	Wed 21st	Village Green Hotel	John Campbell case studies presentation	John Campbell	Gary Savage
June	3 <sup>rd</sup> to 4 <sup>th</sup>	MCEC	Tech and Trade Fit Careers Expo		Alan Cooke
	Wed 18th	Geelong	Hanwa – site visit		David Sykes
Jul	Wed 16th	Village Green Hotel	Robotics presentation	Fred	Sam Tyagi
Aug	Tues 13th	online	AFI National Council meeting		
	Wed 20th	Dandenong South	Moss Industries – site visit		Graham Wilson
Sep	Fri 6th	Sovereign Hill, Ballarat	MA Technologists Picnic Presentation		Gary Bunn – MA
Sep	Wed 17th	Village Green Hotel	Legend and Achiever Night <i>and</i> AGM		
Oct	Wed 15th	Sydney	AFI National Council meeting		
Oct	Thur 16 <sup>th</sup> – Sat 18th		AFI National Conference, Darling Harbour, NSW		
Nov	Wed 19th	Village Green Hotel	Macroeconomics - presentation		Alan Cooke
Dec	Wed 4 <sup>th</sup>		2026 Planning meeting		Alan Cooke