



Platinum — A Changing Industry

The Seventh International Platinum Conference, entitled 'Platinum — A Changing Industry' was held in October 2017 at Polokwane, Limpopo Province in the heart of the northern limb of the Bushveld Complex, the world's biggest platinum-producing region. The event was held in association with the Precious Metals Development Network of the Department of Science and Technology's Advanced Metals Initiative. The Southern African Institute of Mining and Metallurgy convenes regular platinum conferences in order to disseminate recent technical developments in the industry and to facilitate stakeholder engagement. Previous themes have been 'Platinum Adding Value' in 2004, 'Platinum Surges Ahead' in 2006, 'Platinum in Transformation' in 2008, 'Platinum in Transition — Boom or Bust' in 2010, 'Platinum — A Catalyst for Change' in 2012, and 'Platinum – Metal for the Future' in 2014.

Platinum and the other platinum group metals (PGMs) play an essential part in modern life. PGMs can be found in a multitude of applications from autocatalysis to medical uses, fertilizer production to investment, and fuel cells to jewellery. In fact, it is hard to find a facet of current civilization where PGMs have not improved the quality of life as we have come to accept it. Our world, with a growing and rapidly urbanizing population, will inevitably require greater quantities of PGMs for the supply and storage of energy, and for cleaning the gaseous emissions from transport systems.

PGMs are crucial to the transportation and energy industries in establishing environmentally-friendly technology, and the long-term outlook for platinum group metal demand is positive, based on growing industrial and jewellery usage, tightening regulation for emissions around the world, and a lack of substitution possibilities coupled with tighter long-term supplies. The near-term challenge facing producers is how to create a sustainable supply situation that will endure short-term variations in demand and pricing.

Despite sustained lower PGM prices since 2014, arising from shifts in demand patterns and market oversupply, the South African platinum industry will continue to be the mainstay of supply for decades to come. Continuing speculation on the rate of adoption of electric vehicles in place of internal combustion engines across the transport industries and the resultant mix of battery electric vehicles, hybrid electric vehicles, and fuel cell electric vehicles has impacted short-term demand patterns and associated metal prices. Despite overall demand being roughly static over recent years, the demand from the industrial and jewellery sectors has continued to grow, with the current split across sectors being roughly one-third each between the auto industry, industrial, and jewellery.

The papers published in this edition of the Journal have been selected from across the core disciplines of mining and metallurgy, aspects of measuring and monitoring, and the broader sustainability elements of social licence to operate and energy conservation. This selection from the Conference proceedings is intended to share knowledge, provide insight, and hopefully tempt you to engage with the full proceedings. Enjoy reading them, and we look forward to your support at the next platinum conference.

Lastly we would like to, again, express our heartfelt thanks to the organizing committee, the conferencing team of the SAIMM, the delegates who supported the event, and our willing and generous sponsors for their extensive support, without which this conference would not have been possible. Thank you and Keep Safe.



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