Greetings from Division Director

Welcome to the second edition of the Mining and Metals Division Spring Newsletter 2017. During the last few months the global mining industry has confronted major challenges based on the steady price decline of metals. This situation has driven the decision by many to put a stop to new mining projects and expansions to focus instead on controlling production costs.

Improving productivity in the mining industry has become extremely relevant using technology, process upgrades, and alternative energy sources. In this issue, we will present cases where the industry is moving in that direction and how it can make progress using technological innovations to increase its competitiveness.

Francisco Soto
Director
ISA Mining & Metals Division

Greetings from Newsletter Editor

Greetings! My name is Don Root and welcome to the second edition of the Mining and Metals Division Newsletter.

The first article in this issue by Bas Mutsaers looks at how innovation will impact mining over the next five years. The second article is by ISA Society President Steven W. Pfantz has provided an article about how to embrace change, become more flexible, and adaptive to meet the needs of a changing world.

Thank you for your interest in the ISA Mining & Metals Division.

Donald J Root, PE
Newsletter Editor
ISA Mining & Metals Division

www.isa.org/mandmdiv/
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Leader Biographies

Francisco Soto is the manager of a R & D center in Chile, with more than 13 years of experience developing and implementing innovation projects for international companies, and labs. Supporting technological spinoffs, technology transfer contracts and raising R&D contracts with companies in mining and oil & gas. Has worked with several mining companies on the development of innovation products and solutions. Holds a Bachelor’s degree in Business from Universidad Técnica Federico Santa Maria, Chile.

Donald J Root, PE is a licensed professional electrical engineer with 33 years of experience in electrical power & control systems, mechanical design, and project management. He pioneered the use of PLCs in several industrial applications and is fully knowledgeable in US and international electrical codes that apply to environmentally-rated industrial locations areas. He is the author of magazine articles and book sections on the use of control systems and has been a guest instructor at Kansas State University. Don has seven years of P&L experience in a small high technology company and international experience executing projects in the People’s Republic of China, Thailand, Indonesia, The Philippines, Romania, Poland, Ecuador, Puerto Rico, and the Caribbean.

Ari Supomo has been in the process automation in the mining industry for all his professional life. Says Ari, “I joined ISA so that I can stay informed with the automation advancement. In addition, I can learn and apply automation best practices and standards from ISA to our mining sites. I believe there are great opportunities for the mining industry and companies to work and partner with ISA. My goal for the division is to improve the communication, participation, interaction and collaboration between ISA and mining society/community.”

Bas Mutsaers is an innovative, results driven professional with extensive experience in setting and executing strategy, leading various high performance teams in the areas of consulting, engineering and software development across the Natural Resources, Energy (up- mid and downstream), and Utilities industries. This has been achieved in APAC (ANZ Region), India and Europe. Over 15 years leveraging ISA standards like ISA95/ISA99 with a strong global network and deep experience analysing, selling, designing, building, testing and deploying innovative industry-specific solutions. Leader of many Global complex migration and transformation projects and pursuits with strong solutions, systems and business process capability. Leveraged ISA standards across domains of ERP, EAM, MES, and Industrial Automation achieving IT/OT convergence by leveraging the ever-growing data of Sensors, People and Technology across the entire value chain and applying it in BI and Analytics solutions.

Carlos Mandolesi is the owner of Sigma Automation located in Brazil, with 24+ years’ experience in industrial automation and networks and now with a strong focus in Industrial Internet of Things. Experienced in large projects in mining, metals, oil & gas and biofuels including customers like VALE, Anglo American, Samarco and Petrobras. Carlos is ISA District 4 (South America) Vice President and was elected to be a member of ISA Executive Board.
**FEATURED TECHNICAL ARTICLE**

**Mining Innovation - The next 5 years going as fast as the past 30 years**  
*By Bas Mutsaers*

Let’s strap in for the Olympic Games of Mining. "If you thought that in the last 30 years was interesting and a lot has changed, you can expect about as much change just in the next 5 years ahead". Yes, we are about to go 6 times faster down the digital and technology highway. If that is not enough incentive to leverage some mature standards in the process than I don’t know....

Those who are already training their innovation, technology, digital and cyber muscles will be much more prepared to keep up with their peers. Those focused on Science, Technology, Engineering and Mathematics (STEM) will be happy to read that their jobs are about to get even more interesting as many new subjects will come across their virtual desks. Also those in Leadership, Change Management and Culture get ready to be in the best position coaching our industry that will really benefit from your expertise.

As the Mining majors have a lot to lose this is going to be an interesting time. Their people just have been through significant changes and challenges. They might feel the need a rest but frankly they need to keep pushing and challenging their current processes, practices and decision tools to be in position to keep up with the juniors and new kids on the block. They are in position to make changes faster and natively adopt a digital enabled operating model - rather than treating digital as another "add-on" or an "afterthought".

It will not happen this time by just throwing money or more resources at the problem. Autonomy and automation requires a deep understanding of the complexity of the processes that need to be automated and controlled before initiating further improvements though understanding new dimensions and relationships across the value chain. With mining having many areas of variability it will be those with the best knowledge and data at their finger-tips that might go through to the next round.

Is ISA ready for taking on this challenge? Share your thoughts....

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**ISA SOCIETY NEWS**

**ISA needs to change, but how?**  
*By Steven W. Pflantz PE, 2017 ISA Society President*

As you’ll recall, I stated in my February column that ISA’s long-term value and success depend on our ability to embrace change and become: more flexible, more adaptable, faster to market, and less reactive. So how do we move ahead and work to achieve these change goals? First of all, driving organizational changes begins at the top. ISA leaders need to lead and teach by example in what we do. That’s how to initiate culture change.

As leaders, we need to make decisions based on our future not what we’ve done in the past. We can’t constrain ourselves according to our past behavior and practices. Attracting new and younger leaders to the Society is important because they can’t fall back on old ways; they bring fresh perspectives and ideas and are motivated to act on them.

Change requires a mindset shift. We need to view change not as a temporary phenomenon but as an ongoing reality. We need to be receptive to change as an evolutionary fact. Things change and we need to change along with them.

Consider all the changes in our professions and industries over the years. Look at the change from pneumatic controls to smart, digital transmitters and the control systems they connect with. Now take a step back and take a look at ISA. Has our Society, as an organization, changed that much over the years? Are we stuck in the past, held back by our old ways?

And today’s marketplace won’t wait for ISA to catch up. As I emphasized last month, succeeding in the marketplace requires keeping pace with the speed of change, demand, and our competition. Faster to market means getting things done when they need to be done, not when we can get them done. While, yes, we’re not going to meet every deadline, we have to operate with a greater sense of urgency.

It’s my hope that by recruiting new leaders and volunteers, we’ll be able to ease some of the workload burden, streamline processes, and improve product and service delivery—as well as expose ourselves to new perspectives and ideas.
To be less reactive, we have to be more determined to take the lead. We need to be the one setting the standards and establishing the trends, not waiting for others to act so we can follow along with the rest of the crowd. In many ways, this goes back to our culture. We tend to be conservative in our thinking and actions. We all need to understand that ISA leaders, volunteers and members are smart, highly capable professionals and experts in the world of automation. It’s only logical that ISA should assert itself as the industry pacesetter and achieve and maintain positions of leadership.

To all those members considering a Society leadership position, consider no longer. Please join us.

To all those members currently in leadership roles, I applaud you for your commitment, and I ask for your support and help in embracing the change imperatives. Your engagement—asking hard questions, questioning assertions, offering insights and experiences to learn from, and lending your expertise—is critical if ISA is to act swiftly to meet the challenges of the future.

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About the ISA Mining/Metals Division
The Mining & Metals Industries Division (MMID) is one of ISA Technical Divisions. Its goal is to support and advance its members who are working and/or interested in the mining and metal industries. MMID focuses on leveraging automation functionality and technology solution to enhance mining processes and metal production.

Who is best served by this division? Professionals concerned with economically and environmentally sound practices as related to the extraction of metal ores, coal, cement, sand, gravel, and other minerals and the handling, separation, processing, fabrication, related processes, and research and development for the production of finished mineral or metal products. It also covers the Iron and Steel Making industry, Aluminum Processing and other light metals and the production and manufacturing of metals products.