



PULSE OF PENTA

January 2019



Message From Our CEO



PENTA experienced steady growth in its client base, adding new names to its core client list. We have recently completed projects in copper mining, lime hydration, cement transfer terminals, fire-retardant industrial minerals, ponded ash handling in power plants, and processing of green alternate fuels.

Our Consulting, Engineering, and Construction Services groups worked closely together to successfully complete the assignments for this varied client base. PENTA India signed and successfully completed several projects in India & Africa and worked closely with the US operations to help meet tight deadlines and budgets. We are grateful to our clients for their continued trust in PENTA.

We continue to promote from within and create a strong leadership team for the future. It is gratifying to see the team rising to the challenges of revitalizing and creating the PENTA of tomorrow.

We recently purchased state-of-the-art software for scanning and 3-D design and have invested in drone technology. This and the addition of qualified staff with experience in new design technology have had a positive impact on our operating efficiency.

2018 has been a successful year for PENTA both financially and in the preparation of groundwork for 2019 and future years.

*Subhash B. Mohan, P.E.
Chief Executive Officer
PENTA Engineering Corp.*

The Fact Is...

We are more than just an engineering company! During our 33 years' history we have helped our customers with projects in a wide array of industries: cement, lime, mining, industrial minerals, metal smelters, grain and chemical processing. We are the "From Concept to Completion" company, providing services such as feasibility studies, 3D scanning, detailed engineering, project and construction management and design-build projects. Our customers trust us with their projects because they know that no matter how big or small, we treat their projects with the same degree of importance and work steadily through thick and thin until completion.

PENTA Projects

Lime Kiln Construction



PENTA has been completing lime kiln construction projects on-schedule and on-budget for over 30 years. PENTA's 4 specialized divisions work as a team to provide clients with diverse services such as consulting, engineering design, project management, and EPC (Design/Build) or EPCM solutions. Clients enjoy working with a single-source provider like PENTA so they can focus on the productivity and profitability of their existing facilities while we provide industry-proven, durable, and

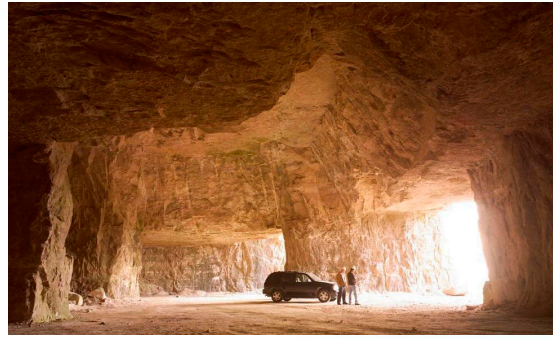
cost-effective solutions for their plant expansions, modifications, and upgrades. PENTA delivered the following services in these two lime kiln construction projects [Read More](#).

Old Limestone Mine is Given Second Life

With a static temperature of 58 degrees all year long, life in an underground mine is cool. Yet the Rock City Admiral Parkway Development almost didn't become a reality. Owner Joe Koppeis had a geo-technical firm assess the viability of re-purposing this old mine prior to working with PENTA Engineering Corp. The geo-technical firm suggested the facility would require bolts every 2 ft. for the rock roof to be considered stable, and this requirement would have blown the cost of the project sky high. Joe contacted PENTA for a second opinion and we confirmed that the geo-technical firm had miscalculated. PENTA's top-notch mine engineers found

the structure only needed bolts every 8 ft. to be safe for the facilities Joe had in mind.

PENTA's evaluation reduced the cost of the project by millions of Dollars and helped get the project off the ground. [Read More](#) and see a [Video Testimonial](#) from the Owner, Joe Koppeis.



A Long-Standing Relationship

Yura S.A has been a customer of PENTA since 1989 when PENTA provided assistance in the due diligence for the acquisition of two cement plants in Perú. Over the years, PENTA has been retained by Yura for subsequent work, including the study for the upgrade of the Yura cement plant in Arequipa and the engineering to implement the recommendations. Yura S.A. and Cal & Cemento Sur (Perú), Union Cementera Nacional (Ecuador), and Sociedad Boliviana de Cemento (Bolivia) are part of a large conglomerate and business interests operating under the name of Gloria S.A., Peru. Over the years, our services have helped this customer achieve desired capabilities and capacity expansion. Worth mentioning are the following services provided recently:

- Inspection in China by one of our Senior Consultants of the kiln system fabricated for Union Cementera Nacional in Ecuador.
- Inspections in China by one of our Senior Consultants of the kiln shell fabricated in Liyang for Cal & Cemento Sur's lime plant in Juliaca, Peru. We also helped to improve the performance of the new Maerz lime kilns at this plant.
- Technical Pre-Feasibility Study to evaluate an existing cement pyro line to manufacture lime. As part of this project, PENTA looked into the feasibility of utilizing rock from a travertine quarry and using sanitary sludge as fuel.
- On-site services by another one of our expert lime consultants to prepare the Cal & Cemento Sur plant for commissioning of its new lime rotary kiln. While on assignment, our consultant is also providing operations training.

PENTA was selected to provide these services because of our expertise in cement and lime studies, engineering, operations training, and project implementation. PENTA's success is measured by the customer's repeat business.

Employee Spotlight

Two of our employees -- a senior engineer who joined PENTA 20+ years ago; and a junior engineer who joined PENTA close to 2 years ago -- share their thoughts on PENTA as a place of work, their goals, and outlook on their future.

Petko Vlaytchev

My Career at PENTA

I started working at PENTA in January of 1996. The Company was expanding and had booked its first complete cement line project. Engineers were needed, and I was hired as a Junior Structural Engineer. This was my "lucky break" which has defined the next 22 years of my life.

I had obtained a Master of Science in engineering in Bulgaria, then worked for a couple of years in Malta, spent 11 months looking for a job in Ontario and at the end, ended up working for a small grain-handling equipment manufacturer in Columbia, MO. This job introduced me to bucket elevators, conveyors and shop detailing.

Prior to joining PENTA, I had never seen a cement plant. Starting at PENTA with my very limited experience was a challenge -- I needed to learn a lot on "the run".

Learning became possible thanks to the help from the wonderful people who worked at PENTA at the time. They helped me to acquire the knowledge necessary for the execution of the work. Most importantly, they helped me understand that mediocrity is not an option, that we all are a part of a team and that one's mistakes are not just his or hers but mistakes that reflect on everybody's image and, most importantly, on the image of PENTA. As I moved through the ranks from being a Junior Engineer to becoming Department Manager and now Senior Consultant, I have always tried to remember the philosophy for excellence must be the guiding light for me and my colleagues.

I remember thinking in 1996 that after a few years I would move on to another city and another job. As the time went by though, I realized that there are not too many places like PENTA that will provide an engineer with opportunities to learn and to work on challenging projects all around the world. Testament to this is the fact that in January 2019 I will be celebrating my 23rd anniversary with PENTA. And that I look forward to at least my 30th anniversary at PENTA!



Freddy Gearheart

On the road to success

I was born and raised in southern California, near Los Angeles. I was looking to take on my career as a mechanic, but it did not look promising. I had attended the Motorcycle Mechanics Institute and had been working two jobs, but I still felt that I had to do something that would assure me a successful career. The support I received from one of my relatives had me moving to St. Louis where I started community college in January 2012 and graduated with a 3.8 GPA. I transferred to



Missouri University of Science and Technology and completed a BS in Mechanical Engineering “cum laude” in 2016. I took an industrial engineer co-op at UPS while I was looking for the right job.

As destiny would have it and circumstances were in my favor, word-of-mouth played a role and PENTA heard of my search for an opportunity to start my career as an engineer. PENTA was expanding and looking for talent and I was called for an interview and offered a newly created position as PMO starting in May 2017. The operations experience that I had gained at UPS would prove very helpful in performing as a PMO. And, I knew that by taking an indirect path to where I wanted to be

had always set me up for success.

With my prior experiences and growing role within PENTA, I was tapped on the shoulder in May 2018 to help commission a 15MM project. Upon returning from the field, I attained a greater picture perspective for what we do at PENTA. As a PMO, I have seen the proposal phase and project set-up. The commissioning field work taught me project execution and closeout. Now I see the overall or global perspective as well as the necessary details for a successful project and how they are intertwined. At PENTA, there is a wealth of experience. Sharing industry know-how is just a cubicle away and the willingness is genuine.

In July 2018, I was promoted by PENTA to Mechanical Engineer I, which is very gratifying to me and my wife. Effort and mindset are what I draw from to keep me engaged and motivated. Now I am looking forward to attaining my PE license. This is just the start of me paying it forward on my behalf as well as PENTA.



NEW HIRES

Polina Levin, P.E. and Prasanna Seshadri, PhD

Polina Levin is an experienced heavy industrial and construction Professional Engineer. She complements our mechanical team bringing process and HVAC experience along with her tenure in heavy industrial engineering. Polina is a graduate of St. Petersburg State Technical University, often referred to as “Russia’s MIT”.

Polina enjoys traveling with her husband to New York City and San Francisco to visit their children.

Dr. Prasanna Seshadri has joined PENTA in a new role of Energy Engineer with the Process Team. Prasanna comes to us with a strong background in process design, project engineering and management, technology and new product development used in power and heavy manufacturing industries. He and his wife moved from Akron, OH where he held the position of Lead Research Engineer at The Babcock & Wilcox Company. He received a Master's degree and PhD in Environmental Engineering from the University of North Dakota. In his free time, Prasanna, an avid sports fan, enjoys running and cheering for his favorite professional soccer team.

For information about working at PENTA, please go to:
<http://www.penta.net/contact-us/careers/>

PENTA Bulletin

IEEE-IAS/PCA Cement Industry Technical Conference in St. Louis



PENTA will be attending the IEEE-IAS/PCA Cement Industry Technical Conference on April 28 – May 2 in St. Louis.

Please come visit our booth to find out how PENTA can help with your next important project. You will be greeted by one of our cement industry staff. It will be a great opportunity for all to exchange ideas and find out the latest technologies available to our industry.

Fostering New Ideas

Mid-year 2018, PENTA launched a round table program called the “PENTA’s Open Forum” which meets weekly at lunch time to share ideas, spread knowledge, and foster creativity across our organization. We are seeing great results from this casual meeting in improving company operations, strengthening services, and promoting the sense of “team”. We can see how at the beginning of the New Year, each employee is looking forward to this open discussion, preparing to bring key inputs and opinions to the table, and continuing to promote open communication and fellowship.

