Microtunneling Inc.
Taking Microtunneling Across the Globe

Also Inside:
- Check Out the 2008 Trenchless Innovations
- Fusible PVC & HDD: A Growing Market?
- International Section Included
Tim Coss has established leading microtunneling facilities in North America and Bangkok, Thailand.
Over the last 15 years, Tim Coss, president of Microtunneling Inc., has been a fixture in the industry, providing specialized equipment and advice to microtunneling professionals all over the world.

Today, with established facilities in Colorado and Thailand and after years of being a dedicated professional, Coss has seen the ups and downs, ultimately concluding with success stories — both for his company and the microtunneling industry as a whole.

With the company’s anniversary approaching, Coss reflects on the years and how he and his staff have offered a hand in the advancement of microtunneling.

“I can’t believe this is our 15th year and that we are still growing stronger than ever,” says Coss. “I love what I do and I believe Microtunneling Inc. has made a difference within the industry.”

Filling the Gap

Coss first began his microtunneling career with E.E. Cruz & Co., a utility contractor in the New York-New Jersey metropolitan area. With the company, Coss was able to take part in one of the largest microtunneling projects in the United States. The project, which was located on Hylan Boulevard in Staten Island, N.Y., began in 1989 and involved drives of 1,625, 1,450, 1,325 and 1,250 ft. Today, the project still holds the U.S. microtunneling distance record of 1,625 ft for a single drive — it was also one of the first microtunneling projects ever completed in the country. In 1992, Coss decided to move out west to Boulder, Colo., after visiting his son who lived there.

“The quality of life in Colorado is wonderful. I am very fortunate to have found it and live it rather than read about it,” says Coss.

Shortly after arriving in Boulder, Coss established Microtunneling Inc. in 1993 — as a means of providing specialized ancillary equipment and consulting to the microtunneling industry. However, Coss wasn’t immediately met with open arms or an overwhelming desire for his services.

“I thought that with this wealth of information I had accrued, contractors would be lining up for assistance,” Coss remembers. “I found out that with the technology as new as it was, it also limited the number of contractors in need of my help.”

Over time, Coss began to discover that clients were in more need of the equipment the company manufactured, rather than his expert advice. Yet, Coss found a middle ground where he was able to offer his opinions on what piece of equipment would best fit the projects at hand — then provide any additional recommendations to the contractor. This way, he was able to pair the specialized equipment with his extensive knowledge of microtunneling.

“As the company evolved, it became clear that contractors were not so much in need of my advice as my equipment. I was able to tell them what to use to solve a problem and then sell it,” says Coss. “As various needs arose, I was able to fill the gaps in projects and the company began to take shape.”

Applications and Obstacles

Once Coss started to establish his company, he was able to watch the microtunneling industry change and flourish, making way for its applications to be used on a range of jobs. By adapting the process and technologies of microtunneling to different available projects, it has become recognized as a way to complete numerous tunneling assignments.

“Microtunneling is a discipline that isn’t applicable to every job, but it is often the only way to do it,” explains Coss. “It enables contractors to go under city streets, rivers and railroad tracks and other places that conventional tunneling methods can’t.”

Throughout the years, the uses for microtunneling grew as knowledge and experience from within the industry increased. With the new applications and uses came the new available technologies to use in the projects.

“As the industry grew, so did the applications for it,” says Coss. “Many owners are now aware of its many benefits such as polymer concrete pipe, which enables corrosion resistance and offers 100-plus years of reliability. The availability of curved tunneling, deeper and more complex shaft construction methods and longer drives give owners more choices as they prepare their projects.”

Although there have been advancements in equipment, methods and pipe technologies, Coss notes that there are some obstacles the microtunneling industry faces today. The most noteworthy challenge is pairing the pre-qualifications of contractors to do the work in accordance with choosing a pre-qualified engineering firm to do the design.
“Notably in Japan and Germany where microtunneling grew its roots, they have nationalized their microtunneling specifications, materials and procedures,” says Coss.

Another problem stems from cities being comfortable in the methods and technologies of the past when dealing with infrastructure. This thought, coupled with a limited knowledge of microtunneling, has posed a challenge for industry personnel in the United States. Coss feels that microtunneling faces problems with cities and engineers having insufficient knowledge of the process and technologies, as well as them being hesitant to change their familiar methods — methods that may be costing much more of a city’s budget than need be.

“A real issue within the U.S. market is the reluctance to engineer curved tunneling and drives beyond 2,000 ft,” Coss notes. “Within the world of microtunneling, curved drives are commonplace. Cities are spending millions on their reluctance to employ existing and proven technologies. The United States is behind what is considered standard throughout the rest of the world.”

Taking the Show on the Road

When Microtunneling Inc. opened its doors, its first clients were involved with work in the United States. Today, the company serves clients in North America, as well as all over the world. Coss explains that the majority of Microtunneling Inc.’s work is done for customers outside of the United States and comes from repeat clients with some of the top microtunneling contractors in the world. He also notes that the continued trust these clients have staked in him and his business is something he truly values.

“We never take for granted their confidence in us and we appreciate their business,” says Coss.

Although its roots are in the United States, Microtunneling Inc. has been able to take its business across the globe by attending international trade shows and through marketing efforts and word of mouth. Satisfied customers and industry personnel spread the news of Coss and his business to potential clients.

“Our overseas market grew as word traveled that there is ‘this guy in Boulder’ who might be able to help you,” explains Coss.

Microtunneling Inc. also established a manufacturing facility in Bangkok, Thailand, in 2002. Through its inception, the company was exposed to several offshore contractors, as well as several manufacturers of microtunneling equipment.

“Ratchapit ‘Oh’ Dejthai, our director of engineering, has our fabrication done in some of the best facilities in Bangkok. Oh’s master’s degree in mechanical engineering, combined with his clever ingenuity, has provided a wonderful fit to our company,” says Coss. “We now have a separate company in Thailand named Microtunneling International Co. Ltd.”

In 2007 alone, Microtunneling Inc. has manufactured equipment for clients in New Zealand, Australia, Korea, China, Taiwan, Malaysia, India, Qatar, Saudi Arabia, Germany and the United States.

15 Years of Customer Service

Looking back on the journey of his company, Coss understands that to be successful in any business, strong and honest relationships with customers must be established. He has worked hard to maintain good communication and trust between the company and his clients through delivering the best products and services he possibly can — and supplying work Microtunneling Inc. can be proud of.

“We take pride in our work and I wouldn’t sell anything to a contractor that I wouldn’t use on my own job,” says Coss. “Good customer service is at the heart of any successful company.”

Coss also notes that Linda, his wife of 40 years, has been key in encouraging him and the company over the years.

“Linda has been an enormous help and inspiration with the creation and operation of Microtunneling Inc.,” he says. “None of this would be possible without her.”

To stay in tune with the latest advancements in the industry, Coss looks to microtunneling projects that are taking place throughout the world and the technologies and processes that are being applied to them to understand current trends.

“By keeping knowledge of the current jobs going on in the country and around the world and understanding the problems that are encountered and solved, it helps me to provide my customers with the best way to handle situations they may have to deal with,” explains Coss. “While many jobs are similar, no two are exactly the same and there’s always something to learn. Being involved in the complete process on so many jobs, we have the unique opportunity to see what works and what doesn’t. Our customers appreciate that we are as concerned about their success as they are.”

Tunnels of Information

Coss’ work doesn’t end in the offices of Microtunneling Inc. or on the jobsite; he also believes in informing others about microtunneling and stepping into the role of edu-
In November 1992, Coss met Dr. Levent Ozdimir, Ph.D., P.E., a professor of mining at the Colorado School of Mines and discussed the microtunneling industry. Together, they realized that there needed to be a way to teach others about the industry.

“We spent some time discussing ways to educate the still fledgling microtunneling community on some of the new innovations available,” says Coss. “There didn’t seem to be a central point to teach and discuss some of the issues particular to the industry.”

In order to fill the void of educational opportunities, the Microtunneling Research Institute was established in 1993. From there, the two men came up with the annual three-day Microtunneling Short Course. The short courses were designed with education and networking in mind. Through informative sessions, industry professionals present the latest innovations, products and technologies in microtunneling. Participants, who come from all over the world, have the opportunity to learn about microtunneling from those who know it best.

“We have leaders in the industry speak on their field of expertise,” says Coss. “The course has been filled each year with more than 1,750 people attending from more than 25 countries. The format works well if you are a beginner or more experienced in the field.”

To determine the course’s lesson plan and the topics to be covered, Coss and Ozdimir take a look at recent projects that have been completed, the obstacles that were addressed and the trends within the industry. From there, an agenda on how to cover the basics and other relevant topics is formed. They also find speakers to discuss those projects to provide their own professional insight.

“Each year we review some of the more difficult jobs and the innovative ways of solving some of the problems encountered,” explains Coss. “As some of the new technologies become available, we are pleased to be able to have someone from those areas speak on how it might be applicable for those attending. Our speakers are the very best the industry has to offer and we greatly appreciate their participation.”

The short course has provided those involved in the microtunneling industry with an opportunity to brush up on the latest innovations, as well as make contacts with other professionals in the business.

“Looking back, some of what seemed cutting edge then is standard practice now. We’re glad to be part of bringing it to the forefront,” says Coss. “We have contractors who attend every few years to see what’s new in the industry and network with those who share their trade.”

Coss will host the 15th annual Short Course, Feb. 5-7, at the Colorado School of Mines in Boulder. This year’s event will feature 25 professionals discussing the industry.

In addition to the yearly course, Microtunneling Inc. has presented numerous mini short courses in areas where there has been a particular interest.

“These courses have enabled us to educate local contractors and engineers on the benefits of microtunneling,” says Coss. “Microtunneling is truly an art form and we’re pleased to be able to offer it to the world.”

Pam Stask is an assistant editor of Trenchless Technology.