SMWDBEs:
The World of Small, Minority, Women & Disadvantaged Business Enterprises

- I-95 Slides Into Position Over Oil Mill Road
- AI on ENR’s Top 500 Design Firms List
- Waterbury Bus Storage & Maintenance Facility Underway
- AI: An Active SMWDBE Advocate

25 Years of Delivering Excellence & Value
Welcome to the new design and layout of our AI newsletter, called AI Outlook. For many years we have shared all the interesting things happening with our people, clients and community we serve, through our previous newsletters. It has also been a forum to express our ideas, not only matters concerning the world of engineering, but also our thoughts about our society, economy, infrastructure, education system and several other topics that many times have direct bearing on what we practice.

In this issue, we are bringing you an article that is close to my heart. As AI has solidly entered the fray as an energetic, mid-sized regional engineering firm, we simply cannot forget the help we received from Small, Minority, Women and Disadvantaged Business Enterprise (SMWDBE) programs at many public agencies since the company’s founding. These programs were essential and integral to the growth and success of our company, particularly in the early and formative years. Along the way, we have learned so much about these programs, and based on our experience with many public institutional clients, the valuable experience and insight gained can only help create more SMWDBE success.

So it is only fitting that we share our knowledge and experience with the aspiring new businesses now coming up, as well as with the institutional owners who continue these programs. Given the current and anticipated infrastructure work, SMWDBEs should benefit by creating more successful entrepreneurs, more employed people and revitalized communities. When small and minority owned businesses thrive, they help to bring up those around them, which benefits the economy overall and everyone involved in it. It is simply good business practices for large institutional owners, private and public, to promote SMWDBE programs and outreach efforts.

We also talk about the role technology plays in small business growth. While one can attempt to escape the world of technology whizzing past us at warp speed from the Googles, Apples, Amazons and Teslas of the world, there is much to learn and embrace and effectively apply in the construction industry.

A recent New York Times article covered a Toledo, OH CEO round table discussion about the optimistic outlook for small companies. Many owners are bullish about their businesses in the coming years. It is with this excitement that we look positively toward the future.

-Abul Islam, PE, FASCE
President & CEO
In This Issue

4 The Emergence & Importance of SMWDBEs

6 Challenges & Opportunities

8 Technology & Innovation Can Lead the Way

10 Thoughts & Ideas to Promote SMWDBEs

11 In Other News

We’d like to hear your comments regarding this newsletter. Please send your feedback to aioutlook@aiengineers.com
The Emergence & Importance of SMWDBEs

AI Engineers, Inc. started as a small, home-based business 26 years ago. One computer, one drafting table and a handful of employees. As a Small Business Enterprise (SBE), AI was able to capitalize on the entrepreneurial spirit of its founder, Abul Islam and transition into a vibrant, successful, medium-sized regional company that has offices throughout the Northeast and Mid-Atlantic states, and is ranked as a Top 500 Design Firm by ENR.
AI would not have seen this rapid success had it not benefitted from its status as an SBE and through Minority/Women/Disadvantaged Business Enterprise (MWDBE) programs at the federal and state level. While some people may think of tech start-ups and Silicon Valley when they hear the word “innovation,” that kind of creative thinking is a hallmark of small businesses in all industries, including the architectural, engineering and construction industry.

Today’s world is data and technology driven. Engineers and construction professionals, suppliers and vendors must utilize the newest and best information and technology to succeed in their respective fields. Small businesses by their very nature are more adaptable to change, and as such are a vital resource in today’s economy.

The U.S. Small Business Administration (SBA) considers any business with fewer than 500 employees a small business. Since the recession, those small firms have accounted for 60 percent of the new jobs created, according to the SBA’s Office of Advocacy. These businesses are crucial to the success of our economy, and need support to grow and flourish.

As AI transitions to a medium-sized business, the firm is also leaning back to help those still trying to find their own success. A renewed national focus on upgrading our infrastructure sets the stage for small businesses to take a major role in improving our buildings, roads and bridges, transit and rail lines, airports, and water/wastewater systems. The entrepreneurial spirit common to small businesses can create opportunities to provide greater value by delivering projects more efficiently, quicker and smarter using the fast changing landscape of new technology.

This potential influx of infrastructure funds offers both opportunities and questions. What can and should we do to better promote minority and women owned businesses and help them succeed? Shifting demographics require us to recognize the increasingly important role African Americans, Latinos, Asian-Americans and women have to play in our industry. Successful businesses that have benefited from policies focused on small business, such as AI, have a moral responsibility to reach down and help those coming up behind us.

AI benefitted from organizations like the Greater New England Minority Supplier Development Council (GNEMSDC), which works directly with corporations to connect them with M/DBEs. As a result of Abul Islam’s involvement with the GNEMSDC, AI secured contracts with major corporations such as Sikorsky and Eversource.

“The success of our programs to train diverse entrepreneurs is seen in their growth in sales, employment and profits. The National Minority Supplier Development Council’s Corporate Plus program is made up of MBEs who have demonstrated an ability to handle national and global contracts,” Dr. Fred McKinney, former President and CEO of GNEMSDC, said. “Companies like GM, AT&T, Google, Bank of America, Northrup Grumman, and many other Fortune 500 companies support our program with scholarships because they see the difference in the performance of our graduates compared to other diverse businesses,” noted Dr. McKinney.

But the private sector can only do so much. Which is why the federal government, recognizing both the value and the needs of small businesses, created the Small Business Administration (SBA) as a part of the Small Business Act of 1953. Today, the SBA, in conjunction with the Small Business Investment Council (SBIC), is tasked with offering low interest direct business loans, educational materials and other long term debt and equity investments to private entrepreneurs. The SBA has also developed programs that focus on giving women, veteran and disadvantaged business owners more opportunity to contract with the federal government. |
Challenges & Opportunities

Small business owners find regulations difficult to navigate and time consuming. Taxes, restrictive building codes and sometimes voluminous, duplicative paperwork at many public agencies ostensibly designed to protect public interest becomes insurmountable for small business owners. Large agencies need to simplify the procurement process rather than use cumbersome paperwork.

The federal government recognizes the importance of small and disadvantaged businesses, as well as the challenges they face, including globalization, lack of opportunity, and difficulty obtaining capital. Recently, Congress approved a five-year reauthorization of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer programs as part of the FY17 National Defense Authorization Act. The reauthorization assures a focus on helping small businesses gain a foothold in a global economy, while also supporting research and development of technology that can benefit everyone. In addition to these initiatives, the federal program perhaps most relevant to the construction industry is the U.S. DOT’s Disadvantaged Business Enterprise (DBE) Program. The federal DOT allocates substantial funds to state and local governments, public transit and airport agencies for construction projects. To receive those funds, the agencies must establish participation goals for DBEs. Three major DOT operating agencies are involved in this program: the Federal Highway Administration (FHWA), the Federal Aviation Administration (FAA) and the Federal Transit Administration (FTA). This federal program gives minority and women owned small businesses the chance to compete fairly for federally funded transportation projects in states and municipalities across the country.

The SMWDBE programs are important because they provide minority and women owned businesses opportunities to compete in markets they may otherwise have been excluded from. Specifically, the programs carve out a portion of government funded projects to be awarded to contractors and consultants that qualify as M/WBE. This is an important step in balancing out the inequities that exist not only between the large and small businesses but also between non-minority owned and minority owned businesses. The success of this program, as well as others in states and municipalities across the country, has helped the small business sector to grow and flourish.

The systemic and historic bias that owners of M/W/DBE face is what makes these programs so crucial. Today, on average, women still make 79 cents for every dollar that a man earns. The disparity between non-minority and minority workers is even more stark due to uneven educational and employment opportunities that minority candidates are often excluded from. These disadvantages extend to immigrants and naturalized citizens as well. The construction industry has, unfortunately, proven no different, as non-minority men not only dominate the sector, but also make up a significant majority of large business owners. The M/W/DBE programs in all industries help to bridge some of these gaps by creating a set-aside for a percentage of overall project dollars that are wholly or partially federally funded, giving minority owners a foot in the door and a chance to prove themselves.

Abul Islam’s story is a testament to the success of these programs. After emigrating from Pakistan in the early 1980s, he immersed himself in the culture and professionalism of the engineering industry in America. In 1991, he founded AI, and for the past 26 years, Abul and his company have consistently grown in part through the initial assistance of the M/W/DBE programs. AI has grown to be a regional firm as a result of successfully doing work as a prime contractor for years, and now has the opportunity to help bring the next generation of small businesses up alongside AI.

In addition to federal programs, states and municipalities have also begun developing pro M/W/DBE regulations. The New York City agencies, especially the Department of Design and Construction (NYCDDC), are leaders in this endeavor. As recently as 2016, the NYCDDC rolled
out a Ready to Build campaign that provides workshops and training to help small and emerging firms compete for public projects. As one of the largest cities in the world, New York City’s focus on supporting small businesses will help to grow a new generation of small companies in a variety of industries that work with public funds. NY State recently passed legislation to earmark a minimum of 30 percent of state-funded contracts for M/WBEs.

Of course, procuring work is not always simply the outcome of bidding for and winning new jobs. In the construction industry, there are still prohibitive costs that can keep small businesses from participating in large public projects. Perhaps the most significant obstacle is the payment and performance bonding required for most publicly funded projects. The cost of bonding is significant; often determined not only by the contractor’s past successes, but also by the adequacy of his assets as determined by the bonding company and the contractor’s ability to complete the project successfully and on time.

Thankfully, states and municipalities have begun to tackle this issue as well. A recent ConnDOT program provides assistance with lower cost bonding to M/W/DBE companies that successfully bid for public projects. NYC Small Business Services (SBS) has a similar program. Programs of this sort that help support the small business community while limiting the negative effects of other regulations, are integral to the growth of the small business industry in the United States.

While federal, state and municipal M/W/DBE programs have been instrumental in helping the small business sector grow across industries, there are always new businesses that need the assistance of public programs. Public agencies and larger firms can benefit from the ingenuity and flexibility of small businesses.

The question then becomes, what is the next innovation that small businesses can shepherd into the mainstream? And how can the engineering and construction industry foster those new ideas and technologies so that they can benefit the entire sector? This will be the challenge going forward, one that will help the industry grow and change for the better.
Technology & Innovation Can Lead the Way

It is a common tale that companies such as Dell and HP started out in someone’s garage or basement and built themselves into huge global corporations. But the stereotype exists for a reason. The truth is that real innovation more often than not comes from small businesses. The telephone, airplanes, automobiles among many others were all invented by entrepreneurs and visionaries who were not part of large corporations.

Many major U.S. universities, particularly in engineering and science graduate programs, have established technology incubator programs where academic R&D work is funded by government agencies such as the DoD and the U.S. Army, as well as large corporations. Many large universities are connecting investors through academic work leading to new business. The idea is to take the research by graduate students and faculty and establish money making business ventures.

A small business is by its very nature more flexible than its larger counterparts, and can adopt new technologies with more ease. This is true of small and medium-sized architectural, engineering and general construction firms. Working closely with public and private clients to adopt new technologies is integral to providing the best solution as cost effectively and efficiently as possible.

Recently, AI has pushed further into this model, undertaking a pilot test for the use of unmanned aerial system (UAS) technology in the supplemental inspection of bridges in Connecticut and monitoring of bridges for load rating using state-of-the-art wireless remote sensing devices as well as using BIM modeling and 3D scanning in field/survey work.

Beginning in Virginia and then moving into other states, AI teamed up with an innovative small business enterprise that invented and calibrated a new technology to allow remote monitoring of bridge stresses and movements over time. These devices with a long battery life can last up to 10 years and can provide state DOTs with real-time monitoring using cloud capabilities of bridge load capacity in conjunction with physical load rating, which helps assure proper loading of bridges and in turn a safer commute for the public. Industry-wide, sensor technologies, drones and robots are increasingly changing the landscape of fabrication, construction safety, preservation and maintenance.

These are just a few examples of how a small firm can bring new ideas to fruition quickly and successfully. AI is always ready to partner with other small businesses with the next great idea. The payoff is enormous in getting access to resources and opportunities. AI continues to harness new technology that keeps the firm at the forefront of the industry.

There are still many things that owners of small businesses can do to improve their chances of success.
AI: An Active SMWDBE Advocate
Thoughts & Ideas for Promoting SMWDBEs

As a business owner who has benefitted from these programs, Abul Islam would like to share his idea and recommendations for how new business owners can best position themselves:

For SMWDBEs

1. As an owner, you must start by focusing on getting your firm certified. It’s the first step in helping your firm secure work. But it doesn’t stop there. You must market yourself and your firm, and when you do get jobs, you must finish them on time, on budget and with impeccable quality. Don’t be afraid to rattle the cages of owners or contractors to give you their next job. Remember: you must be “on” all the time. Market yourself endlessly.

2. Get help securing capital. Go to banks or Small Business Associations offering loans, capital help and seminars and sell them on why they should give you the loan at the most affordable terms and conditions. Limitations on credit since the 2008 recession has been a fact of life, but should be easing up in the near future.

3. Seek out talent. Recruit the best and most eager to work in your field.

4. Be diligent about getting paid on time so that you can pay your workers their wages and benefits on time.

5. Collaborate with firms of all sizes just to get in the door. And then deliver. Build a reputation in your field as someone who produces great results and is reliable.

6. Use your cash to invest in your company, not for personal luxury spending. Use it as equity to further grow your business.

7. It’s “retained earnings,” and earnings before interest, tax, depreciation and amortization (EBITDA). Google it. I’m sure you understand basic financial statements. If you keep increasing your retained earnings and EBITDA year after year, you are good. Think of M&A when you’ve built these quite substantially to grow more.

As a participant in successful public agency programs, Abul Islam has thoughts on how public and private entities can better work with small and disadvantaged businesses:

For Public Institutional Owners

1. Increase the number of certified M/W/DBE firms by working directly with eligible firms and increasing outreach.

2. Public and private owners should initiate a rigorous program of education, training and development to spur participation in upcoming infrastructure work.

3. Strenuously encourage large/prime firms to meet their percentage set-aside goals for M/W/DBE subconsultants and create a scoring system that incentivizes contractors actually meeting the goals versus those that hide behind half-hearted “good faith efforts” that actually leave the M/W/DBE goals unmet.

4. Offer free management training courses or webinars for new start-up firms for certification, follow-ups, as well as marketing and business development assistance. Host regular networking opportunities, seminars, and lunch and learns in collaboration with other large industry players and lending institutions.

5. Appoint the best, brightest and most motivated individuals to lead the program at the agency level.

6. Streamline internal processes for bidding to reduce onerous volumes of paperwork and requirements to reduce the administrative burden on the SMWDBE.

7. The key to grow most successful SMWDBEs in a geographical market for public owners is to actively promote and monitor a list of all certified firms for outreach efforts and business seminars while being cognizant to categorize firms in three broad categories:
   i. START-UP: Needs a lot of help
   ii. GROWING: Needs help
   iii. MATURE: Needs the least help and is ready to join our free market enterprise on its own.

In Other News:
Everything Else We Think You Should Know

ConnDOT Waterbury Bus Storage & Maintenance Facility, Watertown, CT
The massive 376,000 sf. $90 million project is well underway with expected completion in Fall 2017

ConnDOT I-95 over Oil Mill Road, Waterford, CT
Four new bridge superstructures were successfully slid into place utilizing Accelerated Bridge Construction (ABC) techniques

AI in the Community
Jonanes Joseph, PE returned to his home county of Haiti to help inspect various bridges. Pictured is a past inspection of the Islet River bridge following the 2010 earthquake

AI Ranked #383 on ENR’s Top 500 Design Firms List
AI was honored to be on the prestigious list for the second consecutive year