

Robert Carpenter | Editor-in-Chief

HDD Market Growing, but Challenges Abound

Industry Remains Healthy Even With Multitude of Issues, Problems to be Solved

As the horizontal directional drilling (HDD) industry matures, the underground infrastructure's dependence on this technology also continues to expand at an impressive rate. The industry as a whole is battling many issues from workforce problems to mud disposal, but still has been able to maneuver around such challenges en route to a very healthy market situation.

In the early '90s, the initial HDD technology market explo-

sion was largely divided between smaller rigs (under 50,000 pounds of pullback force) focused primarily on telecommunications and electric installations, and large rigs (more than 100,000 pounds of pullback) focused on river crossings, generally for oil and gas pipeline companies.

But like the Hawaiian volcano, that first market surge has since erupted multiple times into booming growth patterns not

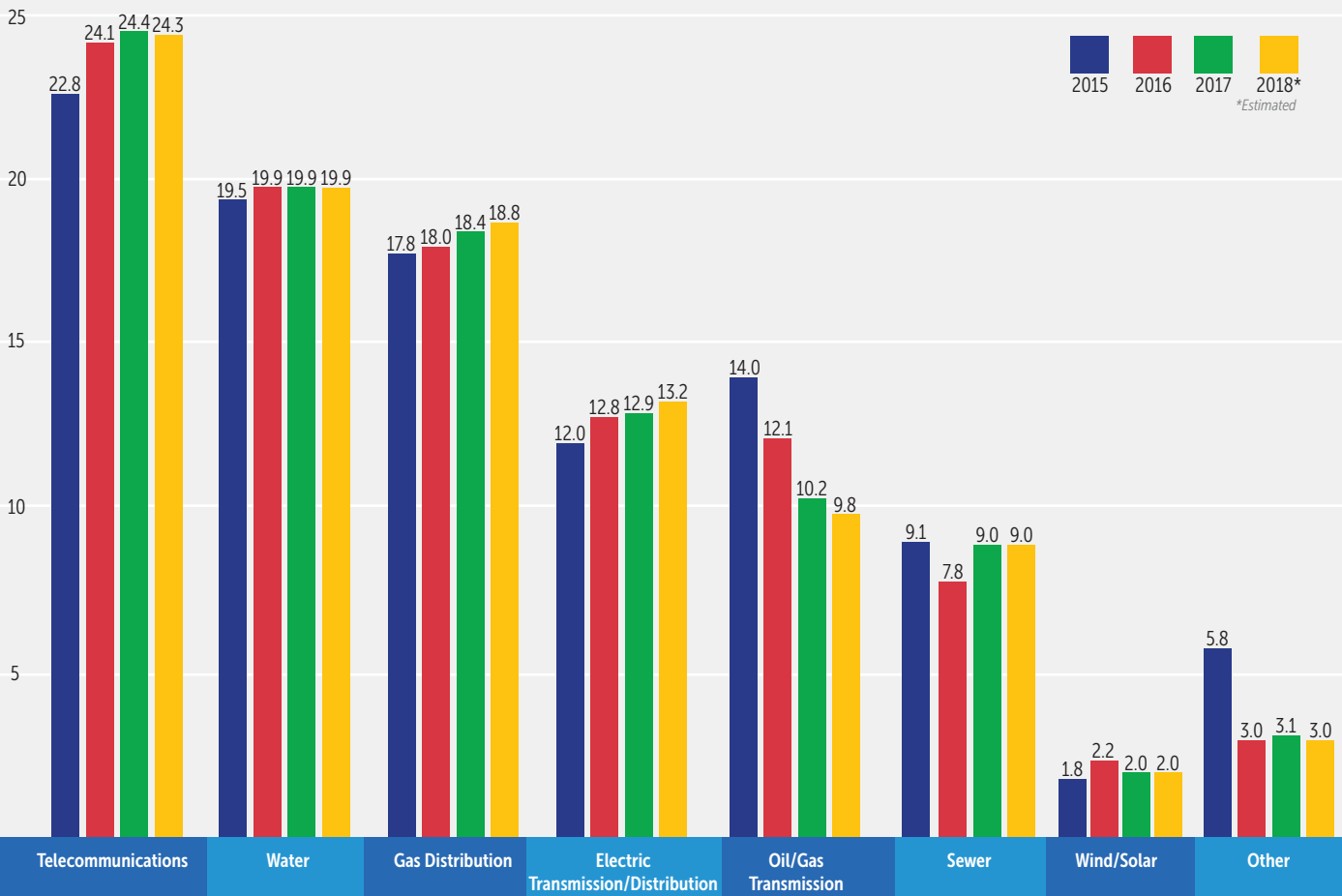
only in those historic, established markets, but also into a wide variety of other applications and markets. This disruptive technology has carved a niche in the new construction industry not seen since the introduction of backhoe-loaders.

HDD is seen by contractors, owning companies and even engineering firms as a solution or, at least, due serious consideration for virtually all new installation projects. Contractors,

being the innovators that they are, consistently expand the HDD universe and applications. Manufactures are steadfast in their efforts to make their equipment and tools more efficient while enhancing productivity.

The 20th Annual *Underground Construction* magazine HDD Survey has tracked the health and growth of this dynamic market since 1998, from the telecom boom/bust to its reinvigoration and current success. This

Primary HDD Markets (% of total)



exclusive industry research was conducted during March and April. It surveyed contractors and organizations that actively own and operate HDD units to enable a statistical portrayal of the market.

Customer faith

While there were some disparaging remarks from survey respondents such as “the HDD market is declining in our area,” and one believes that it “is less stable this year,” the vast majority of contractors believe the strength of the HDD market in 2018 ranges from “good” to “great.”

“There continues to be growing acceptance by customers,” said one contractor. That sen-

timent was repeated by many respondents, who credit much of their market growth to the faith owners/utilities have in HDD technology.

This faith has been hard-earned by contractors or, in some cases, re-earned. During the first telecom boom in the late ‘90s, HDD started out as the answer to a construction prayer. Owners were quickly sold on the efficiency and speed of the new technology. But, as the market exploded, inevitably late-comers flocked to what was perceived as an “easy-money” business.

That level of trust was sometimes sabotaged by “cowboy” contractors who had no experience in drilling and the construc-

tion business in general, including pricing profitable jobs. All kinds of problems were created both at the time and into the future, with poor installations and a multitude of what has become legacy crossbores. Some cities even banned HDD for a time.

Of course, the telecom bust hit shortly after the industry moved into the new millennium and the HDD market shrunk considerably in a flash. The good news was that most of the disreputable contractors were forced out of the business; unfortunately some of the good contractors couldn’t survive, as well.

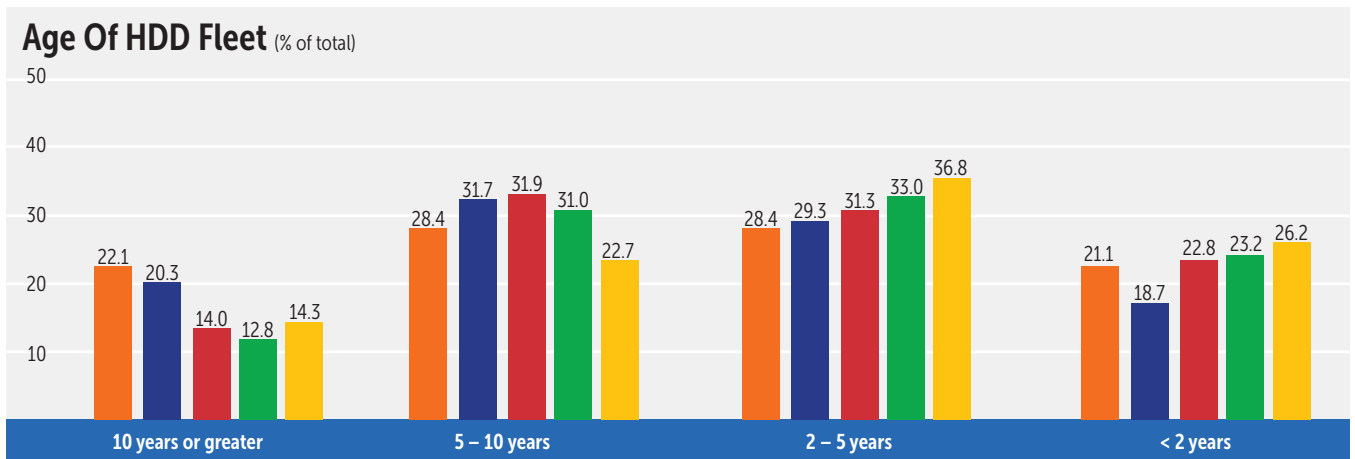
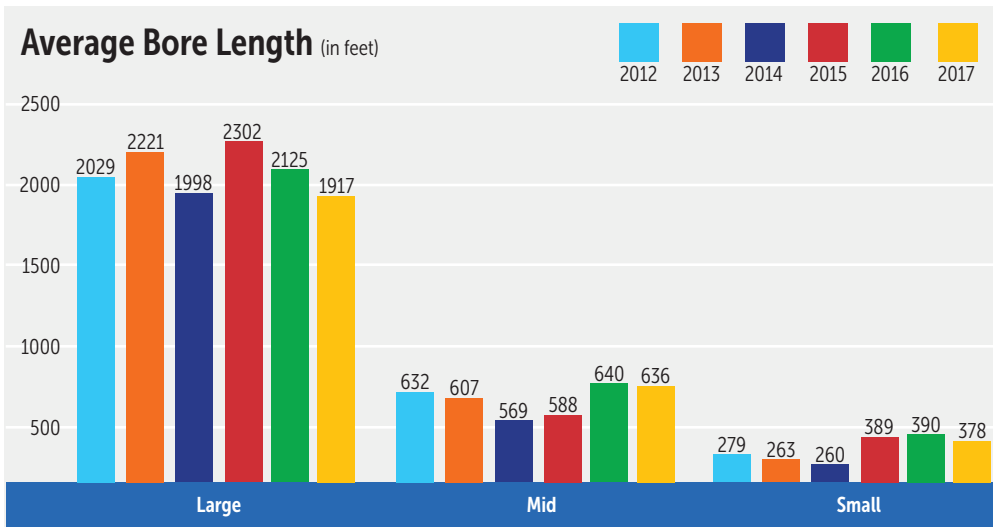
Still, as tough as the early 2000s proved to be for the

growth of HDD, markets did start to recover, contractors found new markets and equipment manufacturers adjusted to real-world, sustainable numbers. There were some lean years for all, but the long-term effect resulted in contractors learning how to survive through efficiency and enhanced production levels.

By 2004, the HDD market started trending upwards with strong growth as contractors diversified into other markets, such as gas distribution, which has become a mainstay of HDD work today. Along with this diversification came a strong, new demand for mid-sized rigs. Even large rigs, traditionally used primarily for oil and gas pipelines, found many new opportunities in gas/electric utilities and fiber optic installations, and in the water and sewer pressure pipe markets. Large HDD work is now a mainstay for many markets.

Upward trend

With the exception of a one-year blip during the Great Recession in 2009, HDD has climbed to a strong market position driven not only by telecommunications, but a plethora of other applications. Smaller rig work thrives with telecom, electric and gas distribution work; contractors



20th Annual Horizontal Directional Drilling Survey

have realized that the boost in power and capabilities from a mid-sized rig opens up new opportunities and applications to compliment both their small- and large-rig endeavors. Big rigs have also found niches in not only the oil and gas pipelines market, but many other areas, such as water, electric transmission and fiber optic/telecommunications installations.

All-in-all, that should translate into a great market, right? While most contractors would agree, they are quick to point out that the market strength is also bringing its own set of challenges.

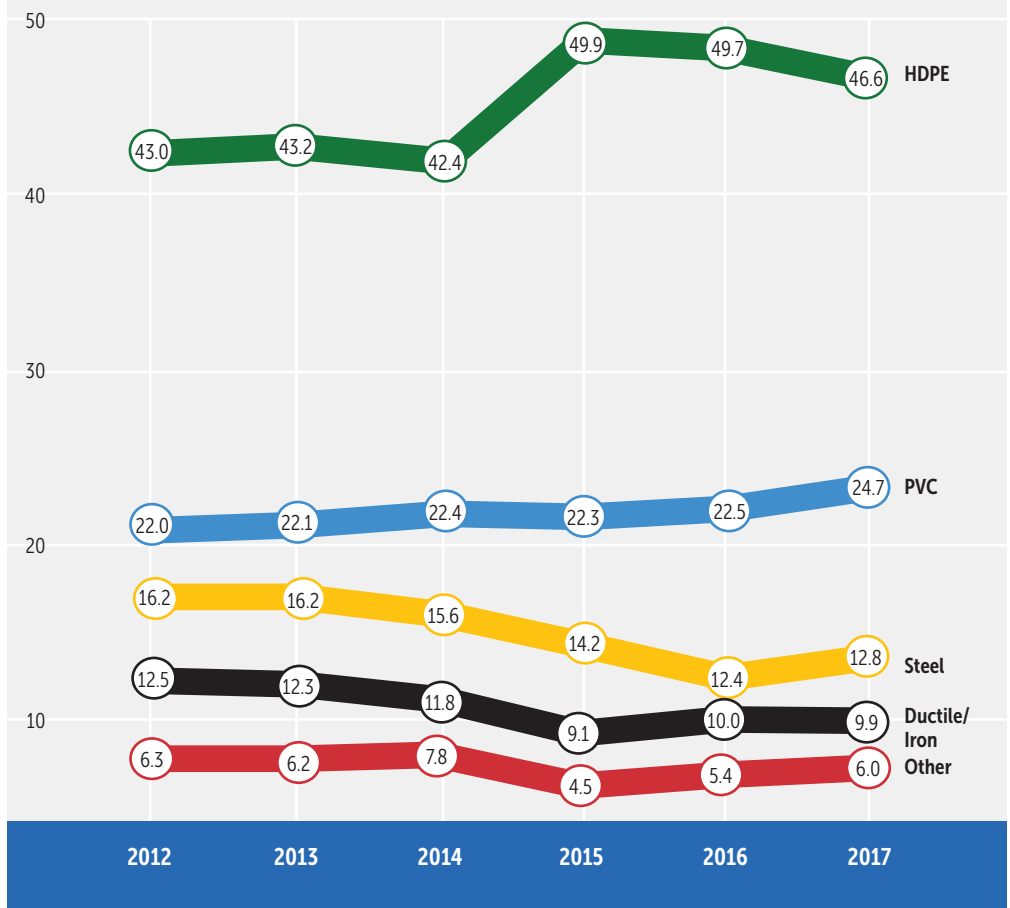
There are concerns that the market is again attracting too many “cowboys” back into the business. A common complaint from survey respondents involves below-cost pricing by novice contractors, who often do not perform to high-quality standards.

“The barriers to entry are few and far between,” said this long-time drilling contractor. “HDD pricing is becoming commoditized.” Another survey respondent pointed out, “Price pressures will continue to lower the unit cost prices for HDD.”

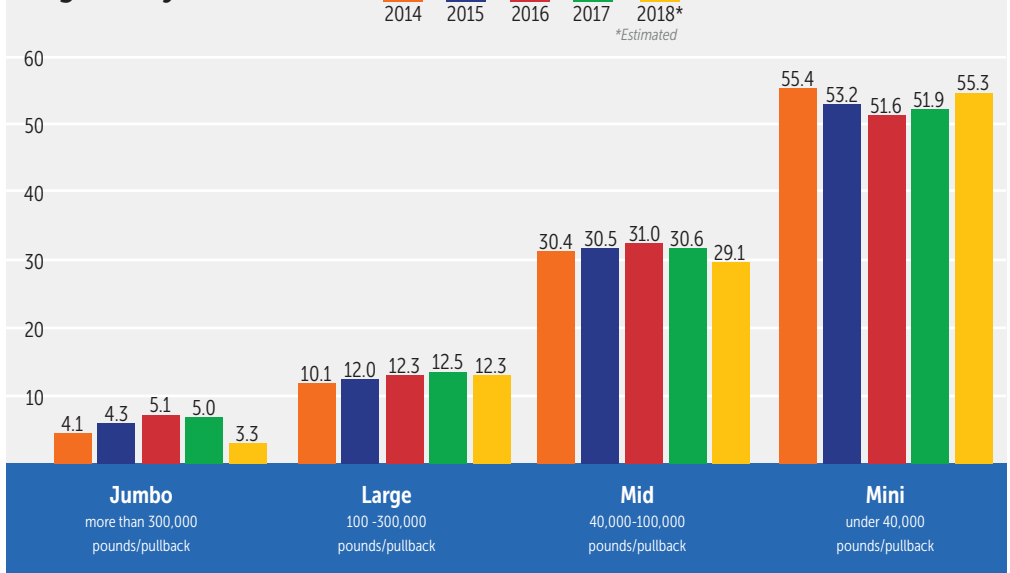
Summing up the market, a veteran telecommunications contractor said, “At this time, a low barrier of entry due to a surplus of telecom work is driving prices and quality down. A lot of inexperienced, unqualified people are creating a bad name for us. Once the MSOs (multi service operators) receive more pushback from municipalities due to high-profile damages and other serious mishaps, the MSOs will be forced to return to only allowing qualified companies to bid.”

Another contractor complained that “low-ball bids drive down the market prices and will lead to cutting corners which, in turn, will drive down perceived

What is the most common type of pipe installed via HDD? (% of total)



Rig size by % of market



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value.” This contractor stressed, “Cowboy contractors and their improper pricing of work is affecting the market not just for themselves, but for all contractors.”

Big dollars

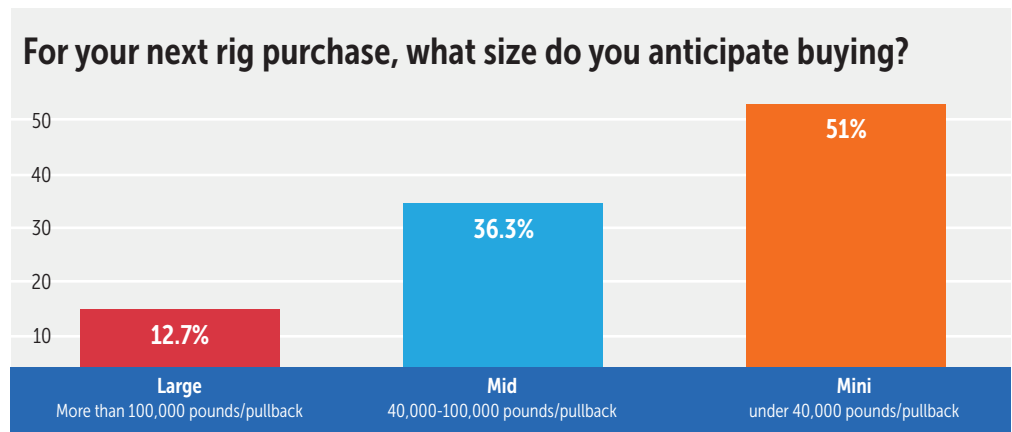
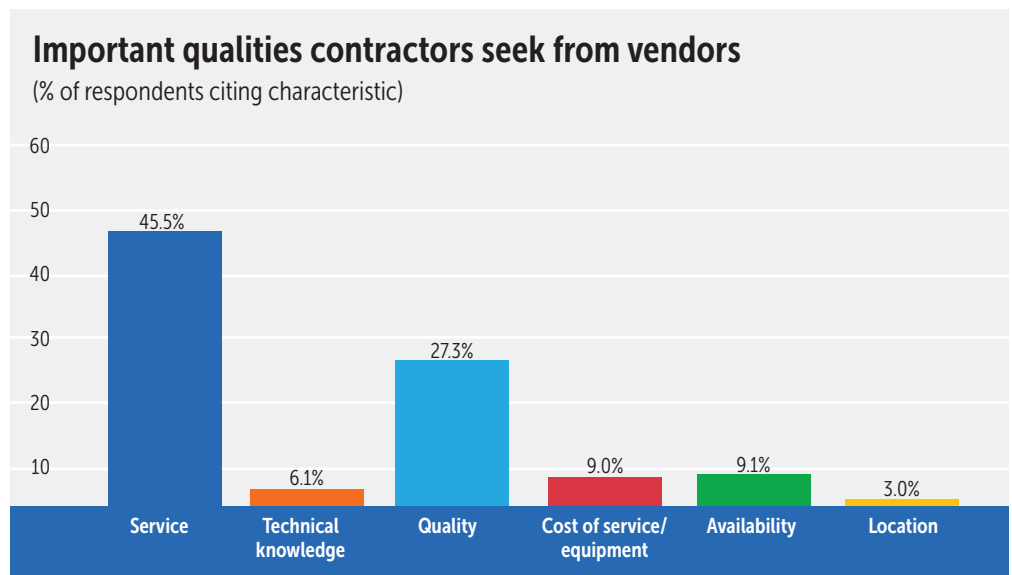
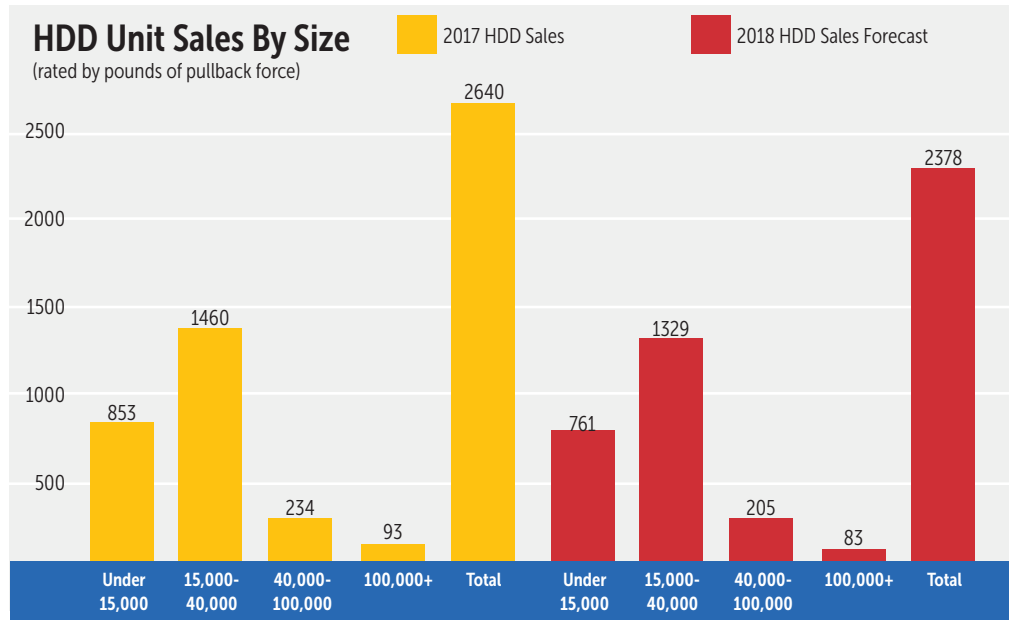
Despite the threat, HDD markets remain strong. While many utility contractors use a variety of traditional equipment on the job, they increasingly find jobs are requiring or justifying HDD installations. In 2017, 42.4 percent of utility contractors executed up to \$1 million of HDD work, 39.4 percent performed \$1 to \$5 million of HDD work, 9.1 percent had HDD contracts worth between \$5 and \$20 million and 9.0 percent had completed projects in excess of \$20 million.

In 2018, contractors expect HDD to account for 47 percent of their work, while they anticipate that number will grow to almost 50 percent in five years.

Rig sales are anticipated to slow down slightly in 2018, primarily because so much money has been invested in replacement units and equipment over the past three years. The average age of a contractor’s HDD rig fleet is now only 14.3 percent over 10 years old, 22.7 percent are five to 10 years old, 36.8 percent are two to five years old and 26.2 percent of all rigs in use today were purchased within the past two years.

Still, the manufacturing and sales slowdown for new rigs will be only a minor blip, probably not even noticed by most. Of new purchases in 2018, 51 percent will be mini rigs, 36.3 percent mid-sized rigs and 12.7 percent large rigs. Contractors average owning 3.6 mini rigs, 1.7 mid-sized rigs and one large or jumbo rig.

Water is expected to remain a stable niche for HDD work in



20th Annual Horizontal Directional Drilling Survey

2019, commanding 19.9 percent of the market. However, if the much-discussed infrastructure investment fully develops, that could jump considerably, especially with the issue of lead waterlines still on the Congressional radar.

High density polyethylene pipe is again the most common type in the directional drilling market, used on approximately 46.6 percent of projects. Fusible and restrained joint PVC pipe continues to carve out a strong niche, with a 24.7 percent usage rate. Steel pipe is used in 12.8 percent of applications, ductile iron pipe in about 8.9 percent, with other types of pipe owning a 7 percent share of market.

Used equipment

With large numbers of new rigs

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constantly entering the market, that has allowed quality, used rigs to hit the market. Combined with the fact that so many contractors are expanding and upgrading their fleets or entering new markets, plus more and more are seeking to acquire HDD capabilities, the used rig market has exploded, with 61 percent of contractors making such purchases.

In 2018, 55.8 percent of used-unit purchases will be small rigs (under 40,000 pounds of pullback), 31.9 percent medium sized rigs (40,000 to 100,00 pounds of pullback) and 12.1 percent large rig (great than 100,000 pounds of pullback).

Tooling and drill pipe are vital components for all HDD rig operations. Contractors buy

these directly from manufacturers: 57.6 percent for tooling, and 53.1 percent for pipe. OEMs still represent a huge market opportunity.

The annual HDD Survey also asked about the most important qualities contractors seek from manufacturer and supplier partners. Service remains the most highly coveted attribute, among 45.5 percent of respondents, followed by quality at 27.3 percent.

Regarding the HDD labor force, it is the same song, 10th verse. There remains a severe shortage of labor in all parts of the market, from basic laborers to skilled operators and even estimators and project managers. Several respondents indicated labor has restricted their company's growth.

HDD Units Manufactured & Sold (world-wide)

