When looking at technical brochures and marketing materials regarding solids-control equipment, one question that should always come to mind should be: Is this really necessary? Other great questions to ask are: What are my day-to-day needs; and what are my severe, high-duty needs? Finding the right solids-control equipment is much like buying a personal automobile. Most vehicles’ speedometers advertise that they are able to achieve 140 mph, to even as fast as 220 mph or more, but is this really practical for everyday driving? It is partly a fancy marketing tool used by many auto manufacturers. Why pay more for features that, in the end, are as useless as the 220-mph on your automobile’s speedometer? Elgin Separation Solutions knows that value is important to customers when they are selecting equipment. Elgin builds durable, value-driven equipment with customers’ needs in mind.

Partially due to cost-savings, partially due to environmental reasons, as well as a myriad of other reasons, solids control is now considered a vital step in the drilling process. With that being said, it is clear that having the right solids-control equipment is critical. One major asset to an operator is knowing what solids-control equipment will be the right fit for their specific operation. There are many factors to consider, but the main factors you should consider when purchasing solids-control equipment include: how user-friendly the equipment is, flow capacity/G-force requirements, spare parts replacement, and the performance of the equipment with regard to your individual needs.

When it comes to solids-control equipment, there are many options available to operators, but the most important equipment used in the industry today are shale shakers and decanter centrifuges. The shale shaker is the primary piece of solids-control equipment used on a rig. By industry standards, the quality of the shale shaker will predict the cleanliness of the drilling fluid being treated. There are two types of shakers used on a rig site: a flo-line shaker and a drying shaker. The flo-line shaker is considered the first line of defense when it comes to solids. Drying shakers are always used in conjunction with other equipment and are used towards the end of a solids-control process. Drying shakers allow for more efficient waste management. Centrifuges are also an integral part of the solids-control process. Barite recovery or dewatering centrifuges work best when pretreatment of the used fluid by a shaker has been performed. Practically speaking, a centrifuge can target colloidal, ultra-fine, and fine particles, which is an important consideration in a region such as the Bakken.

The demand for qualified operators in the field is growing at an exponential rate. Currently, there is a high turnover rate and continued erosion of the talent pool on today’s rig sites. In the Bakken, turnover can range as high as 25 to 30 percent – and often times higher. This high turnover rate comes from a multitude of factors including, but not limited to: the expansion of the industry as a whole, changes in the industry, site-specific reasons, and burnout. With these issues, a unique set of problems for companies has arisen. From the operational side, managers are constantly training new employees on how to operate...
equipment. Time spent training is time that operators cannot afford to waste. The solids-control industry recognizes these problems and has begun to design user-friendly and easy-to-operate equipment in order to ease this burden.

One new type of user-friendly technology would be equipment that provides operators with on-board sensors that alert the operator when trouble occurs. This new, smarter equipment is being developed so that the equipment can protect itself from overloading conditions and operator errors. Elgin has recently incorporated this technology for both shakers and centrifuges. Additionally, more and more systems are being pushed to provide “cruise control” capabilities. The capabilities allow a more hands-off approach to operation, which allows for increased flexibility for the user.

The oil and gas industry is somewhat sluggish to embrace new technology. Customers are more likely to choose classic technology that has been enhanced. For instance in recent years, on-board centrifuge controls have begun to utilize touch-screen technology much like one’s personal tablet. In regards to recent innovations with shale shakers, VFD panels have been developed that can provide the operator with both balanced elliptical and linear motion operation. By providing both settings, operators can now adjust the equipment relative to the type and volumes of solids being encountered during the drilling operation. High Gs are excellent for high solids or high flow, but constantly operating at this level will damage screens. The VFD panel is a great addition that can help users prevent damage from occurring and adjust quickly and efficiently to changing situations.

In addition, when purchasing equipment, thought should be given to spare parts and consumables. Are the spare parts and consumables easy to replace on the equipment? Are they trouble-free to order and keep in stock? Are the parts durable and long-lasting? These questions should be taken into consideration in order to ensure ease of operations and cause less stress on the operator.

As time progresses and the Bakken continues to develop, operators can expect an expansion in these types of user-friendly technologies on the next generation of systems. Elgin is a company that strongly believes in innovation. Currently, approximately 20 percent of profits go back to research and development. The need for constant change and progression is necessary in such an ever-developing industry. Elgin enthusiastically looks to the future as both the region and technologies continue to grow.