

Speeding up the clean energy transition through innovation



The need to create speedy solutions for clean energy installations has never been more urgent. One man in Southern Utah has invented a machine to help solve this problem. This is the story behind the innovation and how it is making a difference in the journey towards cleaner energy production.



Torrance Bistline, having installed countless miles of underground MV cable for wind and solar farms, saw that when triplexing, or trefoiling, was required, the standard method was a cumbersome and costly process. It involved people following behind the reel trailer and zip-tying the cables together by

hand before it was put into the trench. This process was slow, inefficient, unsafe, and difficult for everyone involved.

With 15 years of experience in equipment design for the construction and farming sectors, Bistline began searching for a better, cheaper, and faster way to triplex and bundle

cable in the clean energy industry.

He invented a machine, the VelociWrapper™, which requires no fuel or power source, making the machine 100% green. Using a patented pulley system, the machine is powered by harnessing the weight of the cables as they are being pulled through. This

weight rotates a carriage holding the wrap supply, tensioners, and rollers that in turn spiral wrap the cable in a consistent bundle that stays tight and uniform.

'When the cables are laid in the ground using the VelociWrapper™, the tightness and consistency contributes to five to eight per cent more efficiency in the transfer of energy through to its destination, which also reduces heat and extends the life of the cable,' explains Bistline.

'The VelociWrapper™ enables construction companies to save so much in material, labor and time that the machine will pay for itself in around 200,000 trench-feet, or 60,960 trench-meters of installed cable.'

The machine is sturdy, well-built and made to last. To this day, even the original prototype is still working in the field. Triplexing with the VelociWrapper™ increases safety in the cable installation process, since it greatly reduces the need for employees to be on the ground or in the trenches doing back-breaking work and exposing them to the dangers of being inside the trench. Furthermore, with fewer employees working outside following the reel trailer for hours on end, there is less human exposure to sun, wind, rain, snow, and cold temperatures.

As construction companies save money on clean energy installations, there is a positive trickle-down effect to the end consumer. The less it costs to install wind and solar farms, the less it costs consumers, the more consumers will make the switch to clean energy, and the faster we can reduce greenhouse gas emissions worldwide.

Obviously, speed matters when it comes to saving the planet. The traditional zip tie method of triplexing cables can be installed at about half a mile per hour. The VelociWrapper can accelerate the cable installation by 90%, which of course has a positive impact on the net profit.

On a multi-million-dollar installation project, one customer said: 'We were going to come in at 400% over budget, but with your system we came in on time and under budget.'

The VelociWrapper™ can help save 60% in labor costs, 80% in material costs, and 90% on time. For example, the estimated cost of installing 1,000 feet, or 305 meters, of cable using the zip tie method would be \$350 for zip ties, \$145 for four employees for one hour which equals \$495.

Compare this to the estimated cost of doing that same job with this machine costing \$41 in materials and \$8 for two employees, with the job completed in just four minutes. The total triplexing cost would be \$49.

To help clients determine just how much money they will save, the website www.velociwrapper.com features a clever return on investment calculator.

Since founder and inventor Torrance Bistline spent years in the field laying cables, he understands how to make the installation process more efficient. Due to his ability to discern the nuances of the installation process, he has been able to help clients implement ways to improve their efficiency, save money, and increase the bottom line. As consulting services have become evident as a client need, his team has recently started



Torrance Bistline

offering clean energy installation consulting.

The company now offers accessories for the machine as well, including a custom designed trailer for pulling the VelociWrapper™ behind the reel trailer and a Fairlead which is an attachment that connects to a skid-loader or telehandler and can route the cables from the reel trailer through heavy duty rollers directly into the trench.

This eliminates the need to reel the cables out and then move them to the trench as a separate process. The latest development currently being designed is an array roller system to speed up and improve the installation of collection cables under solar arrays.

www.velociwrapper.com





About the company

VelociWrapper™ is based in Southern Utah, an area abounding with dinosaur track sites, fossil locations, and dinosaur museums. The name was a natural choice, since the velociraptor is a dinosaur known to be fast and fierce, just like the machine.

The company was formed in 2017 under the name Toro Industries in North Dakota where it focused on equipment design. Following the launch of the VelociWrapper, the company moved to Utah and changed its name to Toro Design and Manufacturing (TDM). However, due to constant positive feedback from the public regarding the name of the flagship product, and how clients and associates kept referring to the company as the VelociWrapper™ company, in 2021, the company officially registered under that name in the state of Utah.

The company is motivated by the desire to speed up sustainability for humankind. Not only is it driven to do its part in cleaning up the air and taking care of the earth, but it plans to introduce new initiatives to help people to thrive by stepping up in

sustainable living in other areas as well, starting with its own employees.

‘We try to promote a uniquely positive, growth-oriented culture to help people flourish as employees and individuals,’ explains Ron Johnson, COO. ‘We use the Jurassic period as a metaphor for company culture because it was a time known for its warm, wet climate where lush vegetation and abundant life thrived. We believe in helping the world survive and also thrive.’

Every morning the employees start the day with inspirational readings from self-improvement material. Truston Bistline, brother of the founder, is the production manager over the manufacturing shop. He explains some of the activities they do to keep positive energy in the workplace. ‘We have a weekly Step-It-Up Meeting to energize everyone in the shop. We have lunch together once a week, and on Fridays we have some sort of outdoor adventure together like hiking, fishing, four-wheeling, or mountain climbing. This encourages exercise, teamwork, bonding, and appreciation for the environment.’

In the manufacturing plant, they want employees to be able to do the jobs they enjoy doing. They rotate jobs to prevent burnout from monotony. When the employees need a diversion, they can play basketball on the company basketball court.

‘We try to develop the leadership in each individual,’ explains Torrance Bistline. ‘So we teach them all about the business because ultimately, we want them to take over the business.’

VelociWrapper™ is also instituting an employee innovation fund where an employee gets to designate how to spend a set amount of money to make the company better. They have an IN-Genius award for those who come up with good ideas, and a Power House board where employees give kudos to other employees.

‘Certainly, we are a clean energy manufacturing company with a positive work environment,’ Bistline continues. ‘But this is just the beginning. Our values to help humankind speed up sustainable living could lead us to any number of innovations in the future.’