

# Firmly BASED

Ontario fabricator enjoys steady growth in a competitive economy

## The Problem

Minimizing costs while creating additional sales opportunities



## The Solution

Investment in fiber laser technology

The next time you drive through the Durham Region of Southern Ontario, look up. See that cell tower over there? Chances are good that Marcel Zwetsloot and his brother Frank made it. Co-owners of Baseline Custom Fabricating Inc., the Zwetsloots have been building telecommunication structures, antenna mounts, and other structural steel assemblies in and around the Toronto area since 2004. That's when Marcel decided to leave his estimating and purchasing job at an Ontario fab shop and open his own business.

### Settling in

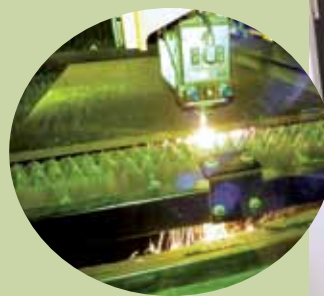
With 18 years in the fabrication trade, Marcel had the know-how to

handle most any work that came his way. He leased a 140 sq m (1,500 sq ft) bay in a nearby industrial park, picked up a small ironworker and used shear, and got busy. Over the years, the brothers continued to add equipment—a 44 ton press brake, a large profile roller, and a second ironworker, this one with 95 ton capacity—repeatedly outgrowing available space until purchasing the current facility, a 1200 sq m (13,000 sq ft) building in Courtice.

Zwetsloot attributes much of the company's early success to a booming telecommunications industry, which kept Baseline busy fabricating and installing the previously mentioned cell phone towers and other related equipment while the company diversified into

THE EQUIPMENT

Axis travels:	3050 x 1550 x 150 mm (120 x 60 x 6 in.)
Acceleration:	1.5 g
Resonator:	3 kW IPG YLS-3000
Assist gas:	Oxygen, nitrogen, or dry air
Machine control:	Beckhoff 15 in. touch screen
Onboard CAD/CAM:	Lantek Expert Cut
Shuttle load/unload:	30 secs.
Machine weight:	11,200 kg (24,700 lb)





Marcel Zwetsloot, left, and brother Frank, invested in fiber laser technology to remain competitive. Right: The Zwetsloot brothers with machine operator Les McCrory, check on the progress of part being fiber laser cut.

other markets. Today, Baseline works in carbon steel, stainless, and aluminum, fabricating an eclectic mix of products including storage tanks, custom enclosures, hoppers, racks, and railings. The Zwetsloots also continue doing the structural steel work that has been their bread and butter since the beginning.

As the business expanded, so too did its equipment list. For the past seven years, Baseline has been partnered with Mississauga-based Ferric Machinery Inc., purchasing a 3.7 m (12 ft) x 350 ton Speed Bend, a 110 ton Power-Bend Pro brake press, an HGD 4,100 x 13 mm (161 x .5 in.) CNC shear, an APK101 101.6 x 13 mm (4 x .5 in.) profile roll and a 32 x 4 m (6.5 x 13.5 ft) EPL three axis hi-definition plasma table, all manufactured by Turkish machine builder Ermaksan and sold exclusively in Canada by Ferric Machinery.

Ferric president Koen Verschingel has worked with Baseline since it first opened, and has been pleased with the company's steady growth.

That's why he was especially happy to receive a phone call from Zwetsloot late last year, inquiring about a fiber laser. "Our high-def plasma does an excellent job, especially on thicker materials, say 25 mm and up," Zwetsloot explains. "The only thing missing for us is hole quality—when the diameter becomes smaller than the material thickness, you start having problems with taper and edge definition. And plasma, because it's quite hot, causes distortion on some parts."

### No more no-quotes

Because of these limitations, Baseline was turning away work. Knowing that a CNC laser cutter could make short work of his hi-def problem parts, Zwetsloot considered outsourcing them to a laser-equipped shop, but did not want to lose control over delivery and quality. "Quoted delivery time was often quite long," he says. "And you're at their mercy—if the subcontractor misses the date, you're the one answering to an unhappy

customer. By the time we added a small markup to the subcontracted price to cover parts handling, we were usually too high. It wasn't worth it."

Those three factors—being able to process their own material, keep lead times in check, and stay cost competitive—were what pushed Zwetsloot to purchase a 3 kW 3 x 1.5 m (10 x 5 ft) Fibermak Momentum Gen-3 fiber laser from Ferric Machinery. Verschingel says the Ermaksan fiber laser was an excellent choice for Baseline, as it's able to cut the majority of their thinner gauge plate and sheet stock, and offers 50 per cent lower power consumption and nearly maintenance-free operation compared to CO2 lasers.

Zwetsloot agrees. "We looked at other brands, and had a quote for a mirror laser, but dollar for dollar the fiber made more sense. The optics are simpler, and the resonator is expected to last 100,000 hours. That, and we've always had good luck with Ferric-Ermak. The stuff is bulletproof."



Machine operator Les McCrory adjusts parameters for a part in the fiber laser cutting machine.



Baseline designed its own sheet loading system for the fiber laser system and plans to market it to other laser cutting shops.



The yard in back of Baseline's facility can accommodate large loads.



Samples of parts cut on Baseline's Ferric-Ermaskan Fibermak fiber laser cutting system.

With the shop's many years of plasma cutting experience, Baseline's learning curve was quite short. About the only surprise to Zwetsloot and his crew was the need to program knock-out tabs on the small parts they were now able to cut—the nitrogen used as a shielding gas on the fiber laser is pressurized to 600 psi, and was blowing the parts across the table.

Another thing they learned quickly was the difference in part quality. On 10 mm (0.39 in.) hot rolled steel plate, for example, the fiber laser produces “a nice square cut,” something impossible to do with hi-def plasma. In the past, Baseline workers performed manual layout and drilling of such part features. Now they are able to quickly and accurately cut mild steel up to 20 mm (0.78 in.), as well as thinner gauges of stainless steel, aluminum, brass, and copper. They also enjoy square, dross-free edges and holes positioned within +/- 0.03 mm (0.001 in.). Baseline

has even designed its own sheet loading system for the Fibermak, and looks forward to marketing the product to other laser owners. “It uses an electric hoist together with a set of vacuum grippers, and can lift plate up to 16 mm thick (0.62 in.,” Zwetsloot says. “There's no strain on the employee, and it makes loading very easy. We've even colour-matched it to the Ferric-Ermak. It's a nice system.”

The addition of the fiber laser and other recent Ferric-Ermak equipment has made Baseline into a one-stop shop, he says. “It definitely filled a gap in our capabilities. Now we can cut, shear, weld, form, or bend most anything that comes our way. We'll even do sandblasting and custom coating, and installation of the product as well, if that's required. The Fibermak was a way for us to minimize costs and create more sales, and give us the ability to quote on work we previously would have turned away. For us, laser is definitely the way to go.” SMT