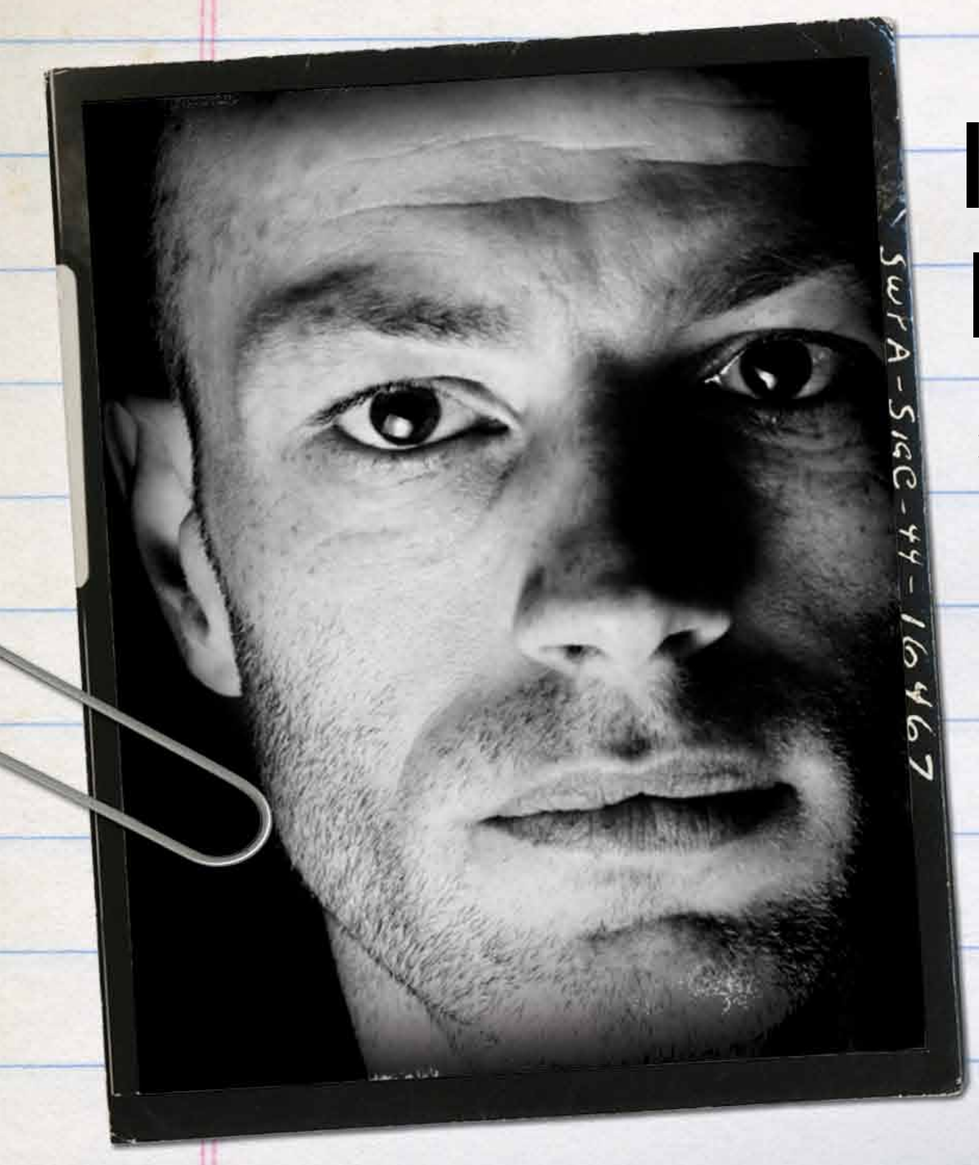


I AM TRANSMISSION AND DISTRIBUTION, MORE COMMONLY KNOWN AS T&D.

I play an integral part in the design, construction and maintenance of delivery grids for electric power. Simply put, I'm the guy who helps keep your lights on and your Tivo powered up.

On any given day, you'll find me either in the office or out in the field. It really depends on what needs to be done that day. If I had a choice, I'd much rather be in the field. Not only because I love working outdoors, but then I'm free to get my work done without interruption. There's nobody coming to me with what they think is an emergency. There aren't emails to answer. And I don't get sucked into meetings that always take twice as long as they should.

Don't get me wrong, I don't really mind being in the office. In fact, I love the challenges of processing field data, synching a GIS database with what's actually happening in the field, mapping and modeling transmission grids, and supporting the construction and maintenance crews. What I don't particularly enjoy is dealing with all the daily administrative stuff like attending meetings, fielding sales calls and filling out paperwork.

Being in the field has its own set of unique challenges. What I might encounter really depends on where I'm working that day. I'm working from my truck much of the day if I'm patrolling transmission circuits. It can get a bit hairy if I'm patrolling along a major roadway. Drivers tend not to give room to a slow-moving or stopped vehicle that's on the shoulder. The faster I can gather my data and keep moving, the better. Of course, that data still has to be accurate.

When I'm off the beaten path, even set right-of-way corridors can be problematic. Sometimes there aren't proper access gates. Sometimes they come with hostile property owners. I've actually had to negotiate tree-cutting rights at gunpoint before. There are also plenty of instances where I'm staking out lines in very remote areas or along terrain that's difficult to traverse. Of course, there are the lines themselves. Working in close proximity to upwards of 100KV (kilovolts) can really get the boys tingling, if you know what I mean.

While getting access to towers, lines or potential danger trees can be an issue, technology has definitely made things easier. For fieldwork, the T&D industry has been very receptive to new equipment and ways of working. Using portable GPS, total stations, lasers and such, we can take more of our measurements from a safe distance. But sometimes the quality of the data can be an issue. For things like mapping right-of-way corridors, checking clearances, measuring vegetation heights or logging sag and span lengths, pinpoint accuracy isn't as key. But when I'm designing a grid or overseeing construction, I need survey-grade data. I don't, however, need all of the bells and whistles that come with most of the surveying equipment out there. I process my data back in the office.

Speaking of processing data, it amazes me how the company's willingness to embrace and upgrade technology for fieldwork doesn't necessarily extend to the office. When it comes to mapping and modeling, a lot of times I'm working with outdated software, or stuff that's not necessarily designed for what I'm doing with it. This usually means I have to do a good bit of data manipulation. Short of upgrading the software, the better the data I start with, the less I have to tweak it and the faster I can get the job done.

I AM TRAFFIC SAFETY.
MORE SPECIFICALLY,
I AM TRAFFIC ENFORCEMENT.

My goal isn't to write a bunch of tickets, but if giving someone a ticket is what it takes to keep people safe, I will. But I do a lot more than just write tickets. I am the protector of every person who uses our nation's streets and roads, whether they are in a vehicle or not. I am out there day and night, rain or shine, working to keep you and your family out of harm's way. This includes helping stranded motorists, enforcing the traffic laws and working with the public to help keep everyone as safe as possible.

I spend much of my time in my car or on my motorcycle patrolling the highways and city streets. I work hard, especially with all the budgetary issues everyone in government is facing these days. Everyone is having to do more with less, which has made our hours even longer and added to already dangerous conditions.

I regularly log 10- and 12-hour shifts, which include filling out seemingly endless reports and even appearing in court. I'm open to anything that will reduce these tasks and put me out on the street more where I truly love to be and where I feel I can do the most good.

Technology has always been and will always be a part of my world. I love it when it's easy to learn, easy to use and makes my job easier. If it's too complicated or too complex, I'll just learn the basics and to hell with the rest of what it does.

All my equipment has to be as resilient as I am. When road conditions are at their worst is when I am needed the most, whether that's due to weather, congestion or construction. It's also when I depend upon my equipment the most. It needs to be there for me, just as I am there for the public.

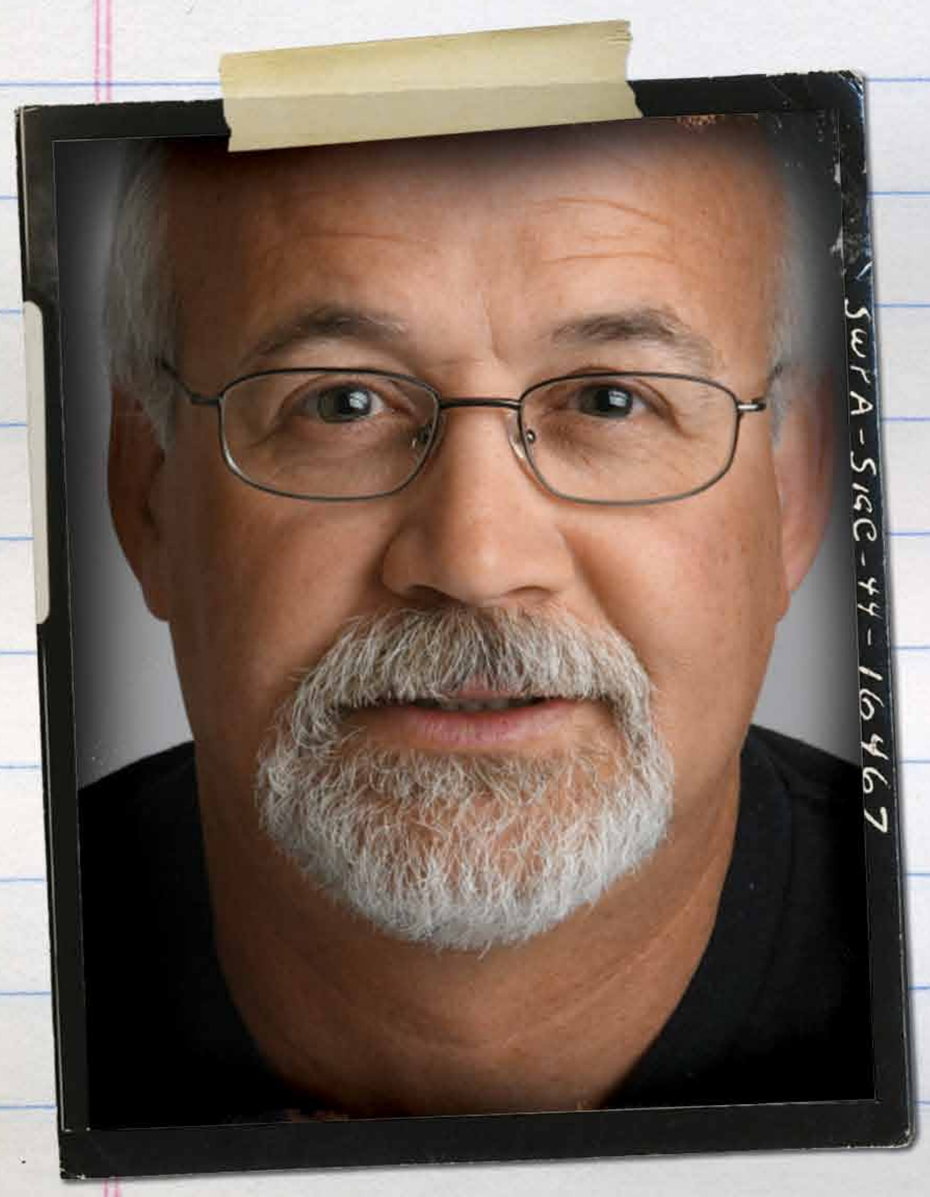
I work in a world of proof, especially when I'm called to court. The stronger the evidence I collect with my equipment, the less time I spend testifying, which is the last place I want to be. Well, the second last.

The last place I wanna be is at the scene of a crash that could have been prevented. Especially if it is serious enough that I have to call out our investigators. That is when I feel like I've failed in my duties to protect and to serve.

I AM TRAFFIC SAFETY.
MORE SPECIFICALLY, I AM CRASH INVESTIGATION.

I am called out when vehicles or property are seriously damaged or when people are seriously injured. The toughest on me is when I have to investigate a fatality. Not that any of my investigations are cut and dry. It's not like it is on TV.

The pressure I face is always huge. I have to gather information quickly under very stressful conditions. No matter what, time is of the essence. We are often closing down lanes of the road, sometimes whole highways. The people involved often need medical attention, which won't wait while they are interviewed. And the longer an investigation takes, the harder it is for anyone involved to get closure, especially the families of someone who was killed.



The crash scenes themselves are always problematic. When we don't close the whole road, we have the added safety of everyone at the scene to worry about. Adrenaline is pumping and it clouds people's memories, even if they are just a third-party witness. People "misremember" and even flat-out lie. There are even times when there are no surviving witnesses. That is why I rely on my equipment to capture the data I need, so I can reconstruct the scene and unravel what occurred. As they like to say in court, the facts don't lie. I need to know the data I'm collecting will not only be accurate and credible, but will be useful. I need my equipment to be compatible with our software. I also need to know the data I'm gathering will hold up in court.

Portability isn't necessarily a requirement but it sure helps at times, especially with extended crash scenes. I've regularly had to gather data on sites covering up to a mile. I even heard of one scene where one of the cars involved jumped a fence and went through fields, finally coming to a stop more than two miles away. Every inch of that scene had to be logged.

Accuracy is a definite need, but just as important is having something I can use in any situation. No two scenes are alike, so I need my equipment to help me gather the right data at the scene and not restrict me by its use.

I AM GPS/GIS. I AM THE GUY OUT IN THE FIELD COLLECTING RAW DATA.

I spend much of my day mapping a large number of points often spread over a wide area. With traditional GPS, this means physically occupying every single point, which cannot only be time consuming and dangerous, but also damn near impossible. For example, mapping under bridges in the city or under a dense canopy in the woods just doesn't happen with traditional GPS. Anything that'll reduce the number of places I have to physically stand and still give me the accuracy I require from my data is a godsend.

To say technology is a big part of what I do is an understatement. GPS receivers, integrated data collectors, backpack units, antennas, data recorders, hand-helds, range finders, tough pads — you name it and chances are I carry it at one time or another. And since I'm usually carrying multiple pieces of equipment, size and weight are important. Small, light and powerful is a great combination.

Another extremely important characteristic is how the product works. Any equipment needs to be easy to learn and easy to use. I realize technology is always changing and companies are always coming up with gear to make my job easier, but I can't be spending time in a classroom every time some company puts out a new product. I need to be out there gathering data, and when I am, I can't be wasting a lot of time trying to find the right measuring mode or data screen. I want to be able to grab my gear and go.

When I'm out gathering data, I can pretty much guarantee I'll have stuff from more than one manufacturer. It's pretty common. My data collector may be from one company, my GPS from another and my laser offset unit from a third. Because of this, anything I use needs to play well with others. It needs to easily integrate with competitors' products without a lot of hassle or programming. Each of the parts has to make the whole package better.

Oh, I can't forget the most important aspect of my equipment, it has to deliver usable data. And not just usable by the software our field equipment runs. It has to easily convert to all the various analysis applications the guys in the office run. While I couldn't tell you all the various types of data they need, I know when I don't give it to them, because they sure let me know. There's nothing worse than having to go back out to a site to recapture data because the first time you came back with a bad data set.

Now, I realize technology isn't necessarily cheap, but cost WILL be a consideration. Just because I say I need something or that it'll make my job better, faster, easier, more efficient, etc., doesn't mean the people controlling the checkbook will get it. It has to show a return on the investment, even for seemingly reasonably priced equipment. And if we do get something new, it often has to be shared among everybody.

I TOO AM GIS. I'M THE ONE IN THE OFFICE WHO MANIPULATES THE RAW DATA,

performing the spatial and network analysis necessary to create the final product as defined by the parameters of the project.

I love the challenges the technical aspects of GIS present. Especially when we get a client who actually understands what GIS is and just how unlimited its applications for problem solving. Unfortunately, many people I work with couldn't even tell you what GIS stands for (it stands for Geographic Information Systems, by the way), much less how it can be applied to their business.

Many clients think we are just map makers. It's even worse when the heads of our company don't get what the GIS department does either. I've actually had one VP ask me if I could make him a flyer for his kid's school play.

When properly applied, the powerful possibilities of the spatial intelligence inherent in quality GIS data are endless. I'm at my best when I get to use my knowledge to help problem solve a project and determine if we need a database view, a map view or a model view solution.

If there was one thing I wish the people I worked with understood about GIS, is that it's a heavily technology-dependent field, and with the speed that technology changes, it's hard to simply make do with old stuff. Regardless of the final deliverables, successful GIS solutions demand the proper data set. Data is my greatest challenge.

GIS is a data-driven industry. If I work for a small firm, I can also be the one gathering the data, but it usually comes from another source. Sometimes, it's gathered by our own field teams; other times it comes from a third party or even an unknown source. Regardless of the source, I need to have data that's not only complete but also compatible with whatever software I use. This can be a real challenge with all the different data-gathering tools on the market. And there are as many manufacturers as there are tools.

It can be difficult to decide what's right, and because I'm the one who has to work with the data, I'm often asked what equipment to get. Personally, I don't care as long as it delivers usable data, but I'm sensitive to the plight of the guys in the field. I try to get them the best and the newest, but the higher-ups often don't understand the benefits of acquiring accurate, usable data as quickly as possible — especially if that means they need to spend money. Some don't even see anything wrong with the field guys recording data with a pencil and paper. Then I spend half my day manually entering data. Talk about a waste of valuable time.

I AM FORESTRY. I AM THE GUY WHO IS OUT IN THE FIELD ALMOST EVERY DAY.

I love being out there in nature. It's why I chose to do what I do. It's not an easy job. Not in the least. I often work miles from anywhere, so my equipment is more than just important to me, it's pretty much my livelihood.

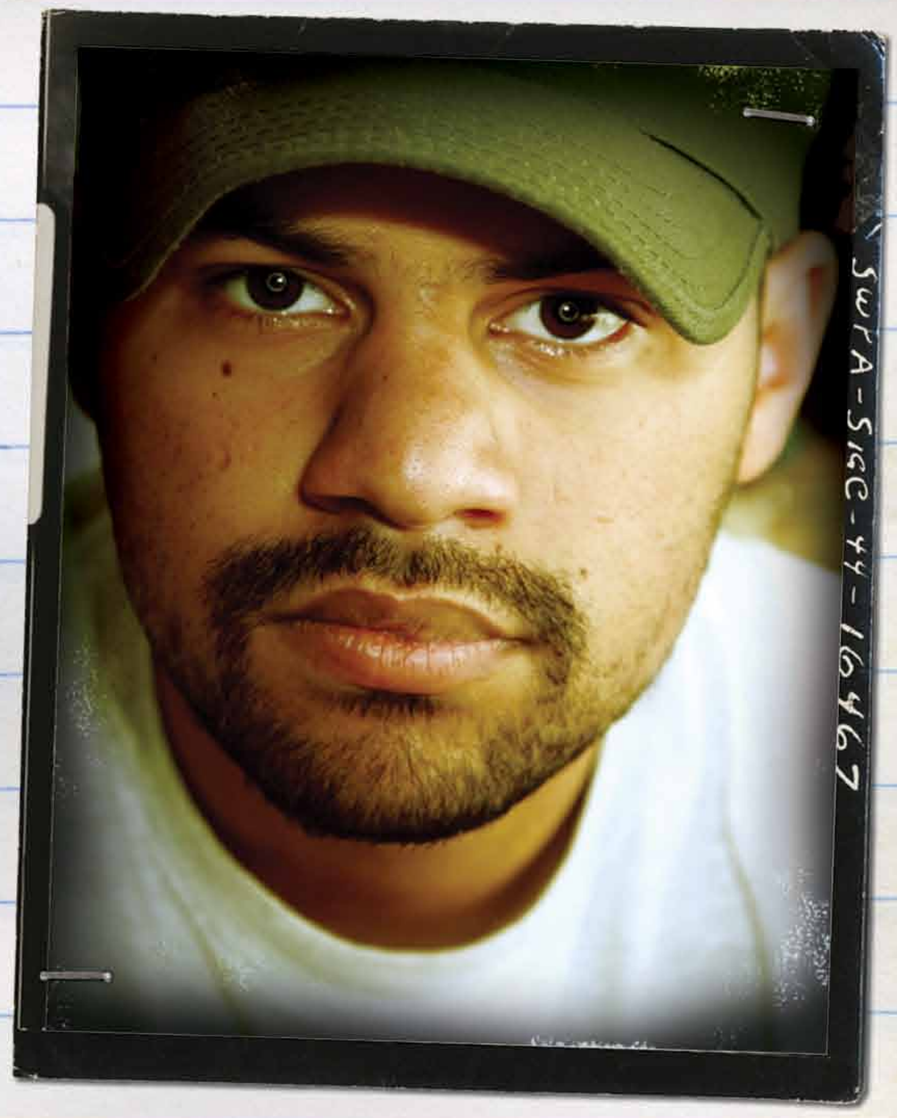
I appreciate anything that'll make my job easier, especially when it comes to collecting data. But more than anything, I really need my equipment to work—every hour of every day — in good weather and bad. Just like me.

Efficiency is good, but not at the expense of accuracy. Because if the data isn't good, it's my ass they chew out.

I have no problem embracing new technology, it just has to be easy to carry and easy to use yet strong enough to handle the conditions in the woods. That means it'll get dirty, it'll get dropped, it'll get wet and it'll probably freeze at one time or another.

Also, I face enough hazards out in the field, what with slogging through the wilderness being chased by bees, bears and the occasional horny moose; stumbling on the random pot farm or meth lab; or having unhappy property owners exercise their right to bear arms. I surely don't need my equipment to put me at risk just to get a measurement. In fact, if it helped keep me outta harm's way, I would definitely use it. Again, as long as it worked and gave me the data I need.

GPS is a great example. Sure it sounds great on paper and really works wonders in the wide-open spaces, but come on, I work in the forest…you know, UNDER TREES. And you want me to go out there with something that has trouble getting a signal through the canopy? That pretty much makes it a high-tech paperweight. I might as well just drop a two-pound rock in my pocket and hike through the woods, especially with all the other equipment I have to carry.



I AM FORESTRY.

But I spend the bulk of my time in the office. That doesn't make me a pencil pusher. Hell no. I began where these guys are — out in the woods. So I understand their need for equipment that works and makes their job easier. But what I need, above all else, is accurate data; and I need it the first time. If there's something that can deliver accurate, useable data, I'm all for putting it in my guys' hands.

However, I also need to answer to the bean counters. And with the lower prices we're getting for our timber in the current economy, I can sympathize with their concerns. Sure we need to be more efficient, but ultimately what does it cost? That's the first question I'm gonna ask.

I have to be able to justify any cost to the higher-ups, or you won't make the sale. And these guys are a tough audience. They are suits. They often can't see past the price tag. Few of them have ever been out in the field. They don't necessarily see it as my guys being able to get data faster. In their minds, if a guy can go out in the field with a twenty-dollar tape measure and get the data, it's good enough. They don't realize just how much time outdated equipment wastes. I need to show them exactly how spending money will make an immediate difference in the company's bottom line.