

Why Irrigation Must Finally Enter the 21st Century



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In an exclusive interview with *Turf*, [HydroPoint](#) Founder Chris Spain explains how landscape irrigators can turn challenges into opportunities by embracing data collection, analytics and wireless control.

TURF: Please briefly explain the thinking behind the founding of HydroPoint?

CS: Our strategy was straightforward, our passion unmatched and in retrospect our naiveté staggering.

First, our strategy. In 2002 we saw an opportunity to bring IT (information technology) to the world of water management. Specifically, we wanted to manage a category of water management that had for the most part avoided IT and had even avoided the attention of most investors: water end-use.

Of course, water in the United States is an incredibly complex environmental, political and even personal topic, but if you take a step back and look at it from a bird's-eye view, there are three main components to the water network: supply, end-use and treatment.

From our perspective, billions of dollars had been invested in supply and treatment but little progress had been made at the 'last mile' of the water network, where businesses and people actually use the water; water end-users. Our theory was that water end-users are rather like the tail that wags the dog, if we could make a substantial impact on water end-use then we could reduce the load and stress on water supply and treatment. Low-flow toilets were an incredible example (in more ways than we ever expected) of a change in water end-use that made a huge impact on every aspect of our water network.

The problem from a business perspective was that in 2002, not many people really cared about water waste. But we were convinced that was destined to change. Why? Because huge amounts of money were going to be required to deal with a host of accelerating problems facing water infrastructure, water supply and treatment. As these costs increased, so would regulations and fines and in the end it would be water end-users who would foot the majority of the costs associated with this new world order. A world where water waste could no longer be ignored without great pain.

Now a normal person sees pain as something to avoid, but as entrepreneurs we saw this future pain as a business opportunity. The question for us was: could this pain be solved economically and predictably in a way no one had considered before and could new technologies help?

This was something we actually knew a lot about and why recent advances in IT had us so excited. In 2002, the world was rapidly hurdling toward new technologies that were perfect for this 'last mile' environment that everyone had such a systemic blind eye toward. Wireless technology was finally becoming stable and could provide real-time visibility, advanced data systems were proving to be instrumental in quickly determining the most efficient path or approach to virtually any problem (pun intended) and mobile devices promised to bring computing to the field in ways no one ever imagined. The good news was that we were technology veterans who had started a software and data company in 1996 and sold it in 2000 and we had learned a lot in the process. The bad news was that while we were right about the world changing, we were a bit early on the timing... about seven years early.

Now the passion part, we love water. I know every water conservation company says it, but we were completely committed to doing what it takes to build a successful company that saves people, businesses and communities water AND money AND time. We win, our customers win and the environment wins. Yes, it sounds a bit corny but remember it was 2002 and no one had imagined that the Great Recession was going to completely obliterate everyone's interest in a sales pitch that started off with the 'green' benefits of their solution. Lucky for us, we picked a category of water use where the water savings were so compelling on their own that we could soft pedal the positive environmental benefits; "it has a two year payback, you will save \$375k" (voice lowered), "and oh yes by the way, we hate to even mention it, but it has been proven by over 27 independent studies to save water and help the environment."

Finally, we come to our staggering naiveté...

TURF: What did you see in terms of landscape water use and the irrigation industry that gave you confidence to launch HydroPoint?

CS: In 2002, we were struck by three compelling characteristics of the irrigation industry:

1. The real opportunity to deliver substantial savings and eliminate water waste and the compound damages and costs water waste causes.

2. The fact that 95 percent of the 40+ million installed irrigation systems in the U.S. use the same technology standard, which means one can create a retrofit solution that is compatible with virtually every site in the U.S.
3. At the time information technology (IT) had not made its way very far into the irrigation industry. In particular, no one was really looking at the huge role real-time data and data analytics could play in high performance water management, especially not back in 2002.

In regard to our confidence, now I get to touch on our “staggering naiveté.” We were confident for the simple reason that we were totally and utterly ignorant of the irrigation business. And though we have been living and breathing smart irrigation 24/7 for over 13 years, we know we are still newbies compared to the incredible experts who have helped us over the years. Amazing and deeply committed irrigation architects, specifiers, water conservationists, water agency staff, water managers, contractors, industry partners, consultants, distributors and last but not least, our employees and customers. In particular, our original OEM partnership with [Toro](#) and their incredible team, who taught those of us that were new to the industry, a vast amount of knowledge very quickly—some lessons were welcome and some a bit painful but all of them very useful.

What excites us so much today is how many irrigation professionals are now comfortable using technology and know first hand its ability to save time. I think the green industry is truly in a renaissance period and that the next five years are going to be very exciting.

TURF: HydroPoint seems to have taken a different approach to grounds/landscape irrigation than traditional irrigation product manufacturers. Am I correct in making this statement? If so, would you please elaborate?

CS: You are absolutely right and in some ways taking a nontraditional approach was very helpful; yet often, it has been an obstacle in gaining rapid acceptance, some of which was merited. We took a nontraditional approach to irrigation on multiple levels.

Our irrigation goal was nontraditional—we designed our solution to realize 95 percent of the conservation potential on any given site. Our technology was nontraditional—we used high performance computers to calculate four parameter ET (evapotranspiration) using the ASCE Penman Monteith equation for every square kilometer of the country and wireless communication to send that weather data every day. Our approach to irrigation schedule programming was nontraditional—we took out the guesswork about how much to irrigate and when.

In the beginning it was a very uphill battle, no one knew what we were talking about and I can't tell you how many corporate executives would ask me, “Now explain again why should I care about our irrigation system?” Where we excelled was passionately answering that question and thereby successfully signing up a wide range of Fortune 1000 corporations who realized paybacks in under 24 months in water savings alone and thereby began to see just how much

money was 'hiding' across all their properties.

One big benefit of our nontraditional approach was that it attracted a lot of attention from researchers who in turn studied our smart controller and provided powerful independent verification of our proven savings. Today, we have over 27 independent studies on [WeatherTRAK](#) which have been essential in helping customers take the leap and adopt our nontraditional approach.

I think the most surprising discovery we had after the first two years was the realization of what kind of company we needed to build. In the beginning, we thought eliminating landscape irrigation waste would be as simple as just installing a new smarter controller. (I did mention we were staggeringly naïve.) But it was no where near that simple, we found out quickly it was about delivering a complete solution and most importantly a solution that was rooted in a dedicated services approach. Since that realization, we have been committed to building a world class service organization to benefit our customers, partners and distributors.

The unique combination of services, data, analytics and cloud/wireless technology, we wrapped together has been the secret to our customers' and partners' success.

Our approach might at times be unconventional but our goal is simple: provide a water management platform whose applications are easy to use, save time, water and money and address every angle of a site's water management needs. We call it 360° Smart Water Management.

TURF: What do you feel the green industry can and should be doing to ensure that it has sufficient water to continue providing turf and other life/environment-enhancing plants/services to society?

CS: I think the green industry has entered a radically different business environment than it has ever encountered. Property owners now see how they can realize year-over-year savings and reduce a host of risks and site repair costs by managing their outdoor water and eliminating waste. Fortune 1,000 CEOs are asking how they can get a handle on their water use to not just reduce rising costs and demonstrate their commitment to eliminating water waste but also to protect their brand from being featured on the local news as a water waster. Irrigation is now recognized as a key component of society's water use strategy. Proven water savings from smart irrigation was highlighted last year in Walmart's global sustainability report under the water conservation section. Times are definitely changing.

The focus irrigation is receiving provides an incredible opportunity for the green industry to get the attention it deserves. For years, the green industry has only occasionally been recognized by the world at large and typically the value of quality work minimized. In response, some in the industry have lost the selling skills necessary to sell value and are therefore forced to sell on price alone, which is usually a rugged road to travel. But we have seen the market shift as property owners have recoiled from increased water expenses, lawsuits, compliance fines and property damage due to overwatering. Many contractors are leveraging this shift to tangibly

show property owners that what you get is what you pay for, and that high quality professional landscape contractors are actually vital stewards of their property's health, community impression and water/landscape resources, who can, with the right tools, save them money, reduce their risks and protect their brands.

The bottom line is that the green industry is responsible for creating, preserving and enhancing the environments we live and play in every day; our urban landscapes. And now the industry, for better or for worse, has been made responsible for eliminating outdoor water waste too. The bad news is it's impossible to deliver a major new service for the same price, the good news is that the green industry can now shift their customers' perception of green services as a low cost commodity to a more meaningful role, where the green industry is recognized for delivering, day in and day out, meaningful savings and risk reduction.

I believe the key component in making this realization possible is a four-letter word: data. If armed with the right data, which is presented in a clear and compelling fashion, and in a timely and consistent fashion, property owners and managers, will become extraordinarily loyal customers who deeply value the services the green industry delivers.

TURF: I am impressed with the technology embedded within the products/services offered by HydroPoint—weather monitoring, Cloud-based applications, automated irrigation scheduling. In terms of technology, what else can we expect in the future from HydroPoint?

CS: I am impressed you are familiar with our offerings, we find we are one of the industry's best kept secrets. Often when we are presenting WeatherTRAK, folks comment, "I didn't know you could do that!" I think winning the EPA's [WaterSense](#) Manufacturer [Partner of the Year Award last year](#), went a long way toward getting our story out.

In regards to the future, like everyone else in the industry, we are consistently improving our product. Our primary focus is finding new ways to save our customers time and money, in addition to water. The last three years have been very exciting, now that the architecture of our Smart Water Management Platform is fully scaled, we are able to add compelling new applications very quickly.

One quick example of the benefits data can deliver: This summer we released [Compliance Manager](#), an application on WeatherTRAK Central where customers can keep track of the compliance regulations of over 550 (and growing) water agencies across the U.S. In the last twelve months, the explosive growth of water agency rules, regulations and fines is truly beyond any one person's scope to track. Property managers and contractors could spend hours to verify all their properties are in compliance. And then once they were current, the next day it could all change again. With Compliance Manager, our customers are able to verify compliance in a single report and automatically get updated information on a regular basis. This kind of application is a perfect

example of what we see as our unique value to our customers and partners. We take massive amounts of data and use technology to transform that data into succinct actionable knowledge. In the beginning, we were completely focused on applying the right amount of water to the right place at the right times. Now we are focused on delivering the right piece of data to the right person at the right time.

Looking toward the rest of 2015, we will be introducing new technologies, applications and services with two main goals: enhancing ease of use and increasing our flow solution offerings.

To increase our product's ease of use and add to the toolbox for industry professionals to succeed, we will be releasing a powerful upgrade to our free mobile app, updating our user interface on WeatherTRAK Central, updating alert management, and offering more turn-key services like water bill analysis and water budget management.

Our other goal is to expand flow solutions. We strongly believe that flow visibility is essential for smart water management. There are a wide range of customers who do not have flow that are saving water; but eventually being blind to your real-time water use is going to cost you, and usually at the worst time and in the worst place. Because we feel so strongly that flow visibility is essential to long-term success, we have put a lot of R&D dollars into finding ways to offer more accurate flow solutions at a lower cost. We have already seen a 337 percent increase in flow product sales this year. Later this year, we will be showcasing our enhanced cloud-based flow management solutions, which will allow users to take advantage of greater flow driven automation and waste detection at complex sites.

I think we have just started to scratch the surface of what can be done and our goal is to continue to surprise and delight our users with products that are powerful but simple to use.

TURF: In terms of services and education focusing on the most efficient use of water within the green industry, where do you feel the industry (as a whole) stands? If you feel it can be improved or expanded, what suggestions would you have?

CS: As is typical when a market place experiences a significant change, we are instantly behind where we need to be. What is exciting though is there are plenty of smart companies and incredible experts who have been leading the charge for intelligent irrigation and water management, we just need to make sure they get the attention they deserve.

I think all of my counterparts in the green industry would agree that we need to continue to improve and adapt our businesses by listening to customers, address their current challenges and needs, make them aware of future challenges and not only educate them but show them the real results that smart water management best practices can deliver. All this data and information needs to be transformed into water efficiency knowledge that we all share.

Equally important, the green industry has to take a bigger seat at the table with policy makers, and the general public at large, and educate them. Help them understand the value of our green assets. There are a wide range of examples of other countries facing a drought who let their landscapes simply die—and in the end, ended up wasting water, increasing energy use and lowering property values and even negatively affecting their people's health. I think we all need to invest in more broad based, general messaging and make sure the right decisions are being made based on real data not initial knee-jerk emotional thinking. In Vancouver, Canada 'grass-holes' was a term for people who had turf. These kinds of press stories represent perfect opportunities for the green industry to engage in a public dialogue and help communicate the real story of how essential our green landscapes are. The alternative is to let key policies be shaped by catchy slogans like 'brown is the new green.' Well brown is brown and dirt is dirt and a world without healthy, water-managed landscapes is not just ugly, it does nothing to protect our water resources and environment.

Water management requirements are only going to increase in their urgency, scale and complexity and as a result leading organizations, businesses and cities will continue to require smarter and more reliable water management solutions. Today, right now, there is the opportunity to establish a network of smart irrigation systems across the country, that would be able to provide 24/7 alert monitoring for leaks, continually identify and eliminate waste and in times of drought, be able to intelligently and easily allocate water to high value landscape assets like trees and reduce water to those landscape assets easier to replace later.

What makes us so excited at HydroPoint is that the money to fund this 'smart water grid' is just waiting to be 'harvested.' Property owners, who hire contractors who understand that smart water management is essential to landscape management, will see their property costs go down and allow them to put that money saved to better use than just letting it run down the street.

That is the opportunity that gets us up each day and so passionate about what we all can accomplish together, a win, win, win world where our industry grows, our customers save money, water and time, and the world we all live in is a better place. Who can't get excited by that?