



How Technology Has And Will Continue To Change The Game Of Golf

Technology plays a critical role in our daily lives. Innovations help save lives, increase productivity and improve quality of life. Technological advancements have also brought tremendous changes to the game of golf. Today, much of the equipment used to play the game barely resembles the equipment used just a few decades ago.

Similarly, countless advancements in golf course maintenance equipment help maximize returns and manage resources. Over the past five years alone, the golf course maintenance industry has seen extraordinary advances in chemical application technology, improving the accuracy and precision of product application while helping managers gather and interpret valuable data. The following technological advancements have improved how superintendents manage turfgrass today and create endless possibilities for the future:



Remote soil sensors provide superintendents with real-time temperature, soil-moisture and salinity information.

Sensors

Sensor technology has helped golfers in a variety of ways. Distance-measuring lasers* instantly inform golfers of the distance required for any shot with a simple point and click. Golfers can also use swing sensors as teaching aids. Swing sensors can attach to gloves or clubs and measure swing speed, tempo and angle.

Superintendents also use sensor technology to maintain golf courses with higher precision and efficiency. Remote sensors installed throughout a golf course can instantly report soil moisture, temperature and salt concentrations to smart phones and office computers. Additionally, advancements in imagery technology such as portable infrared cameras can help identify turf stress before it is visible to the human eye. Detecting stress before it is visible may allow superintendents to address problems before they end up costing valuable time and resources.



GPS Technology

Whether providing turn-by-turn directions to the golf course or an accurate yardage to the hole, GPS technology directly benefits golfers on a daily basis. On the course, GPS technology provides accurate distance information that can be displayed from a golf cart or wristwatch.

GPS-guided sprayers allow superintendents to accurately apply fertilizers and pesticides to selected areas with sub-inch accuracy. This specialized spray equipment has the potential to reduce costs and improve results by preventing overlaps and skips that occur even with the most experienced applicators. More importantly, GPS guidance helps ensure that products are only applied to intended areas, greatly reducing the risk of affecting sensitive areas.



GPS-equipped sprayers include individual nozzle control solenoids (A), a display console (B) and a GPS antenna (C).

Software

From golf simulators and smartphone apps to slow-motion video analyzers, there is a seemingly endless array of new software programs designed to help golfers improve their game. In today's fast-paced world, making practice time as productive as possible is exactly what makes these technologies popular.



Similarly, the phrase “work smarter, not harder” is ingrained into every superintendent’s DNA. New software programs help boost productivity and improve results by monitoring the irrigation system, assessing golf course conditions, recording pesticide and fertilizer applications, tracking labor and inventory, and much more. Collecting data also allows superintendents to produce detailed reports that are invaluable when developing budgets and making management decisions.

The technology currently available to golf course superintendents only scratches the surface of what is to come. As new technologies become more affordable and mainstream, delivering exceptional playing conditions will require fewer and fewer resources. Just as golfers stock their golf bags with the latest and greatest equipment, it is important for golf facilities to provide superintendents with up-to-date technology that maximizes efficiency and helps improve playing conditions.

*Be aware of [Rule 14-3](#) when using electronic measuring devices.

Additional resources:

[Golf Course Maintenance Equipment 101](#)

[The Five “W’s” of Precision Turf Management](#)

[Precision turf management: A new water audit based on soil moisture](#)