

Automating your green space

Smart gardens – think devices, sensors and tiny robots – are an accessible and efficient reality for gardening enthusiasts.

HEALTHY GARDEN

By PROF Dr SIVA K.
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PICTURE this: your garden is a high-tech haven, equipped with smart technology and sensors that handle the hard work for you. This is the future of gardening: a place where technology and nature intertwine to create a smarter, more efficient and sustainable way to cultivate and grow your green space.

Throughout your garden, an array of smart devices is installed, each one designed to automate and optimise different aspects of plant care.

A network of sensors, connected to a central hub, constantly monitors the vital signs of your garden, from soil moisture levels to temperature and light conditions. This real-time data collection allows your garden to make intelligent decisions, ensuring your plants receive optimal care at all times.

One of the most crucial and basic components in a smart garden setup is the automated irrigation system. No more guesswork on how much – and when – to water. These clever devices use data collected by the sensors to determine precisely when and how much



A multi-parametric sensing platform with IoT (Internet of Things) capability. – Adaptive AgroTech International

to water your plants. Whether it is a smart sprinkler system that adjusts its schedule based on weather forecasts or a precise drip irrigation network that delivers just the right amount of moisture directly to the roots, your plants will never go thirsty or suffer from overwatering, a common problem in traditional gardening.

Smart gardens can consume up to 70% less water compared to conventional gardens. But smart gardening offers so much more. You can control various aspects of your plants' growth, such as lighting.

LED grow lights, programmed to mimic the changing cycles of the sun, ensure that even your indoor plants receive the optimal amount of light for photosynthesis.

With your smartphone or tablet, you can adjust the spectrum and intensity of these lights, creating the optimal environment for your plants to thrive.

Advanced sensors can measure the acidity levels and nutrient content of your soil, alerting you when it is time to fertilise or adjust your growing conditions. Some systems even include AI-powered cameras that can detect signs of pests or disease, identify them and provide you with the information needed to intervene before any serious damage occurs.

No smart garden would be complete without some robotic assistance. Picture a team of tiny, autonomous machines roaming your garden beds, pulling weeds and aerating the



Smart gardening is the integration of data-driven and real-time technologies into gardening practices to enhance efficiency, productivity and sustainability. – PROF Dr SIVA K. BALASUNDRAM

soil as they go. These high-tech helpers can save you hours of backbreaking labour, allowing you to enjoy the beauty of your flourishing garden.

The best part? Smart gardening is accessible to everyone, regardless of budget or garden size. These technologies can be scaled to fit any garden, from a sprawling backyard oasis to a compact indoor herb or vegetable garden.

With smart gardening, anyone can experience the joy of cultivating their own little piece of nature, no matter where they live. As technology advances and becomes more widespread, the price of smart gardening devices will decrease, making them more accessible to all, including gardening enthusiasts.

Many smart gardening technologies are designed for easy installation and setup, allowing Do-It-Yourself (DIY) enthusiasts to implement them without professional assistance, saving on installation costs.

Online communities and forums also facilitate the exchange of ideas, tips and troubleshooting advice among

smart gardening enthusiasts.

Embrace this new era of gardening. We are not just growing plants but are cultivating a more sustainable and efficient future.

By harnessing the power of technology to optimise our gardens, we are reducing water wastage, minimising the use of harmful chemicals, and creating healthier ecosystems that benefit both people and the planet.

Join the smart gardening revolution. Imagine the satisfaction of watching your garden thrive, knowing that every leaf and blossom is a testament to the power of technology and your own green thumb.

With smart gardening, the future of automated gardening is looking brighter – and greener – than ever before.

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