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<p>(51) International classification :A01G0025160000, G05B0019042000, A01B0079000000, B29C0048090000, G01N0035000000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>		<p>(71)Name of Applicant : <b>1)Chitkara University</b> Address of Applicant :Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura ----- <b>2)Chitkara Innovation Incubator Foundation</b> Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : <b>1)Dr. Anurag Tewari</b> Address of Applicant :Dean, Department of Computer Science &amp; Engineering, Chitkara University Institute of Engineering and Technology, Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura ----- <b>2)Dr. Manu Midha</b> Address of Applicant :Assistant Professor, Department of Computer Science &amp; Engineering, Chitkara University Institute of Engineering and Technology, Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura ----- <b>3)Mahma Ram</b> Address of Applicant :Department of Mechanical Engineering, Chitkara University Institute of Engineering and Technology, Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura ----- <b>4)Sube Singh</b> Address of Applicant :Department of Mechanical Engineering, Chitkara University Institute of Engineering and Technology, Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura -----</p>
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(57) Abstract :

An artificial intelligence enabled automated irrigation system for precision agriculture, comprising a mesh of irrigation pipes 101, connected via the network of motorized valves 102 includes a direct current (DC) motor 104 connected via metallic arm 105 for controlling operation of the respective valve 102, an inner surface of the irrigation pipes 101 is coated with a polymeric composite embedded with multiple microcapsules 103 that releasing the sealant to automatically fill the minor leaks, an AI module immediately identify a potential leak in the irrigation pipes 101, an inspection module 201 to monitor the self-repairing process of the pipe 101, an iris diaphragm-integrated nozzle 208 dispensing phosphoric acid over rust affected area and a motorized scrubber 209 removes the rust and stored in a storage chamber 210 removed by a suction module 211, a mechanical sleeve 212 with pneumatic pins 213 loosen the debris.

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