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(54) Title of the invention : AN ADVANCED INTEGRATED WEATHER AND AIR QUALITY MONITORING SYSTEM WITH PREDICTIVE ANALYTICS AND DECISION SUPPORT

<p>(51) International classification :G16H0050200000, A61B0005110000, G16H0040670000, G08G0001010000, G01N0033000000</p> <p>(86) International Application No Filing Date :NA :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number Filing Date :NA :NA</p> <p>(62) Divisional to Application Number Filing Date :NA :NA</p>	<p>(71)Name of Applicant : 1)NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY Address of Applicant :19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar ----- Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)HEMANT KUMAR VERMA Address of Applicant :DEPARTMENT OF CSEIOT, NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar ----- 2)SAHIL SRIVASTAVA Address of Applicant :DEPARTMENT OF CSEIOT, NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar ----- 3)NISCHAL SRIVASTAVA Address of Applicant :DEPARTMENT OF CSEIOT, NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar ----- 4)AMAN VISHWAKARMA Address of Applicant :DEPARTMENT OF CSEIOT, NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar ----- 5)MR. MAYANK DEEP KHARE Address of Applicant :DEPARTMENT OF CSEIOT, NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----</p>
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(57) Abstract :
Disclosed herein is an advanced integrated weather and air quality monitoring system with predictive analytics and decision support (100) comprises a plurality of environmental sensors (102) configured to measure a diverse range of atmospheric and air quality parameters. The system also includes a central processing unit (CPU) (104) configured to receive, preprocess, and analyze sensor data. The system also includes a communication interface (106) configured to transmit environmental data from the sensors and CPU. The system also includes a real-time decision support and alert unit (108) configured to evaluate processed data against predefined environmental thresholds. The system also includes a visualization and reporting interface (110) configured to present real-time and historical environmental data in graphical formats. The system also includes a modular and scalable architecture (112) allows for geographic expansion and environmental adaptation.

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