Claims

1. A connected sanitaryware system which, when installed, comprises:
a plurality of sanitaryware fixtures;
one or more sensors coupled to each of the fixtures; and
a control system comprising one or more controllers in electrical communication with a computing device and with the one or more sensors;
wherein
the one or more controllers are configured to communicate with the computing device directly and/or via a gateway,
the control system is configured to collect data from the one or more sensors,
the control system is configured to determine a status of the sanitaryware fixtures based on the data,
the plurality of sanitaryware fixtures comprises a plurality of toilets,
the plurality of toilets comprise an ultrasonic sensor located on an exterior of a bowl of each toilet, the ultrasonic sensor configured to detect bowl contents,
the plurality of toilets comprise an infrared sensor located on a flush valve assembly of each toilet, the infrared sensor configured to detect a usage time of each toilet,
the control system is configured to collect bowl contents data from the ultrasonic sensor, and to collect usage time data from the infrared sensor, and
the control system is configured to instruct a high volume flush or a low volume flush based on both the bowl contents data and the usage time data.

2. The connected system according to claim 1, wherein the connected system comprises a plurality of toilets, a plurality of urinals, and a plurality of faucets, and wherein the one or more sensors comprise one or more ultrasonic sensors, one or more infrared sensors, and one or more capacitive sensors.

3. The connected system according to claim 1, wherein the connected system comprises a plurality of toilets, a plurality of urinals, and a plurality of faucets, and wherein the one or more sensors comprise one or more ultrasonic sensors, one or more infrared sensors, one or more capacitive sensors, and one or more flow sensors.

4. The connected system according to claim 1, wherein the connected system comprises a plurality of toilets, a plurality of urinals, and a plurality of faucets, and wherein the one or more sensors comprise

one or more ultrasonic sensors, one or more infrared sensors, one or more capacitive sensors, and one or more pressure sensors.

5. The connected system according to claim 1, wherein the control system is configured to initiate an action based on the status; or wherein a technician may initiate an action via the computing device; or wherein the computing device comprises a desktop computer, a laptop computer, mobile device, or combinations thereof.

6. The connected system according to claim 1, wherein the status is selected from a clog event, a leak detection, an angle stop position, battery life, water pressure, sanitaryware fixture usage, water level, line clog, bowl contents, and combinations thereof, and wherein the control system is configured to initiate an action based on the status.

7. The connected system according to claim 6, wherein the action is selected from instructing a flush valve to open, instructing a flush valve to close, instructing the high volume flush, instructing the low volume flush, initiating a service ticket, self-diagnosis of a clog, adjusting a duration a valve remains open, adjusting a valve position, monitoring usage of a bathroom, instructing an angle stop to close, sending a message to a technician, and combinations thereof.

8. The connected system according to claim 1, wherein the one or more controllers are configured to communicate with a cloud/server via the gateway; optionally wherein the cloud/server is configured to send instructions to a controller of the one or more controllers via the gateway, and the controller is configured to initiate a sanitaryware action in response.

9. The connected system according to claim 8, wherein the computing device or the cloud/server is configured to send instructions to a controller of the one or more controllers based on programmed instructions and/or data stored on the computing device or the cloud/server.

10. The connected system according to claim 1, wherein the computing device is configured to communicate with a cloud/server.

11. The connected system according to claim 10, wherein the computing device is configured to receive instructions from the cloud/server and to send instructions to a controller of the one or more controllers, and wherein the controller is configured to initiate a sanitaryware action in response.

12. The connected system according to claim 10, wherein the computing device or the cloud/server is configured to send instructions to a controller of the one or more controllers based on programmed instructions and/or data stored on the computing device or the cloud/server.

13. The connected system according to claim 1, wherein the computing device is configured to send instructions to a controller of the one or more controllers, and the controller is configured to initiate a sanitaryware action in response; or wherein the control system is configured to analyze, aggregate, store, and log the data; or wherein the control system comprises a dashboard having visual modules and configured to monitor, display, and analyze the data; or wherein the control system is configured to monitor data selected from historical data, performance over time, bathroom traffic, faucet or sink usage, sanitaryware usage, and combinations thereof; or wherein the control system is configured to provide a daily, monthly, or yearly status of an individual sanitaryware fixture or of the plurality of sanitaryware fixtures; or wherein the control system is configured to allow a technician to monitor the status of the sanitaryware fixtures remotely with the computing device.

14. The connected system according to claim 1, wherein the control system is configured to initiate an action based on the status, external data, or a combination thereof.

15. The connected system according to claim 14, wherein the control system is configured to initiate an action based on the external data or a combination of the status and the external data, and wherein the external data is data from weather services, date and time management services, or in-line flow meters.

16. The connected system according to claim 1, wherein the ultrasonic sensor is located on an exterior bottom center of the bowl of each toilet.