

We claim:

1. A wearable communications assembly to be worn by an individual to remote locations, said wearable communications assembly comprising:
 - 5 a control unit;
 - a biometric sensor electrically connected to said control unit, said biometric sensor sensing a condition of the individual and creating a biometric signal and transmits the biometric signal to said control unit;
 - an environmental sensor electrically connected to said control unit, said
10 environmental sensor senses an environmental condition local to the individual and creates an environmental signal and transmits the environmental signal to said control unit; and
 - a communications unit electrically connected to said control unit for receiving the biometric and environmental signals from said control unit and to transmit the
15 biometric and environmental signals, said communications unit including a transceiver to transmit biometric and environmental signals between said wearable communications assembly and other of said wearable communications assemblies to alert others in an area of a situation that may require attention.
2. A wearable communications assembly as set forth in claim
20 1 wherein said wearable device is a hardhat.
3. A wearable communications assembly as set forth in claim 2 wherein said control unit, said biometric sensor, said environmental sensor and said communications unit are all secured to said hardhat.
4. A wearable communications assembly as set forth in claim 1
25 including a power supply to provide power to said wearable communications assembly.
5. A wearable communications assembly as set forth in claim 3 wherein the biometric sensor includes a heart rate sensor.

6. A wearable communications assembly as set forth in claim 3 wherein said environmental sensor includes a carbon monoxide sensor.

7. A wearable communications assembly as set forth in claim 1 including a linking port electrically connected to said control unit providing a
5 temporary electrical connection of said control unit directly to external data collection devices.

8. A wearable communications assembly as set forth in claim 1 including a user interface to provide information to and from the individual.

9. A wearable communications assembly as set forth in claim 8
10 wherein said user interface includes audio prompts emitted toward the individual wearing said wearable communications assembly.

10. A wearable communications assembly as set forth in claim 9 wherein said user interface includes optical prompts emitted in a direction visible to the individual wearing said wearable communications assembly.

11. A wearable communications assembly as set forth in claim
15 10 wherein said user interface includes haptic prompts.

12. A wearable communications assembly as set forth in claim 1 including a location sensing device electrically connected to said control unit to identify the location of said wearable communications assembly.

13. A wearable communications assembly as set forth in claim 1
20 including a memory device for storing data for a period of time until the data collected can be transmitted or downloaded to the external data collection devices.

14. A communications assembly comprising:
a central processing unit for transmitting central signals and for receiving
25 remote communications;
a plurality of wearable communications assemblies operatively connected to said central processing unit to transmit the remote communications and receive the central communications; and

a communications hub operatively connected between said central processing unit and each of said plurality of wearable communications assemblies to control independent communication between said central processing unit and each of said plurality of wearable communications assemblies;

5 wherein said central processing unit includes an incident identification module for receiving the remote communications and for identifying a portion of the remote communications from a portion of said plurality of wearable communications assemblies as indicating a situation requiring a communication to be sent to said portion of said plurality of wearable communications assemblies.

10 15. A communications assembly as set forth in claim 14 including a communication interface electrically connected to said central processing unit and each of said plurality of wearable communications assemblies to control communications therebetween.

15 16. A communications assembly as set forth in claim 15 including an application programming interface to bidirectionally transmit communication between said central processing unit and discrete functional applications.

17. A communications assembly as set forth in claim 16 wherein said central processing unit includes a database for storing communications and data
20 received and transmitted by said central processing unit.

18. A method for communicating between a central processing unit and a plurality of wearable communications assemblies, the method comprising the steps of:
identifying each of the plurality of wearable communications assemblies with the central processing unit;

25 transmitting communications from each of the plurality of wearable communications assemblies to the central processing unit;

receiving communications from a communications hub operatively connected between the central processing unit and each of the plurality of wearable communications assemblies to control independent communication between the
30 central processing unit and each of the plurality of wearable communications assemblies;

identifying a portion of the plurality of wearable communications assemblies that is sending communication indicating a conditional threshold is met; and

5 transmitting threshold limit communication to the portion of the plurality of wearable communications assemblies regarding the threshold limit status.

19. A method as set forth in claim 18 including the step of broadcasting the threshold limit communication to a group of the plurality of wearable communications assemblies local to the portion of the plurality of wearable communications assemblies.

10 20. A method as set forth in claim 19 wherein the group of the plurality of wearable communications assemblies is at least as large as the portion of the plurality of wearable communications assemblies.

21. A method as set forth in claim 20 wherein each of the plurality of wearable communications assemblies communicate with each other and the central
15 processing unit.