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# Changing The World *One Device at a Time*

*Protecting the lone worker  
in unpredictable situations*



*By Jaime Powell*



**A**T LOW LEVELS IT SMELLS LIKE EASTER EGGS GONE BAD. AT HIGHER LEVELS THE GAS INCAPACITATES THE SENSE OF SMELL NEARLY INSTANTLY. A FEW BREATHS LATER – SHOCK, CONVULSIONS, LOSS OF BREATHING, COMA AND THEN DEATH.



Oilfield workers routinely travel to well-sites and tank batteries alone, in the middle of nowhere, South Texas, to do their jobs. They are routinely educated about the dangers in play, such as H<sub>2</sub>S aka Hydrogen Sulfide, which is described above. Yet countless newspaper headlines highlight the obvious -- companies have been powerless to prevent the deaths occurring in the oilfield.

After viewing promotional video of a new safety tool for use in hazardous areas and harsh environments, it appears it might be time to cue the superhero music. The Spectrum Rough Pro Smartphone offers real-time connectivity to colleagues and remote experts, desktop-applications, and safety and security functions, which will enable immediate response and emergency services.

When a worker falls, the device sounds an alarm at impact. If the alarm is not turned off within a few seconds, an alert is forwarded conveying that a man is down. With real-time Sentinel live-cast connectivity to the victim, a person in a remote location can monitor the situation via the device's audio, camera and video stream. The monitor can talk with a victim, while the fallen individual scans his/her surroundings via the Spectrum Rough Pro. It offers a full view of current conditions, injuries or impending hazards. At the same time, heart rate sensors, gas detection and other programmable features are at work.

Safety professional Stan Smiley has witnessed many lone-worker scenarios and has watched them increase due to cutbacks. He is impressed with the device's capabilities.

"The technology encompassing the Spectrum Rough Pro mobile safety device is mind-boggling for this old safety hand and H<sub>2</sub>S guy," Smiley opined. "To say it has a home in today's oilfield situations and that it is timely and needed would be a true understatement. Eventually, luck runs out and we must have control of such situations. The Spectrum Rough Pro Smartphone delivers that control and saves lives in the process, with features to answer so many safety needs that it leaves one in awe."

The device was developed by Houston-based Rice Electronic in conjunction with Netherlands-based B-Com Solutions, at the request of Europe-based Royal Dutch Shell. Shell was looking for an apparatus to monitor a worker performing an at-risk task, within a dangerous work environment.

The aim was to cut hazardous exposure for its employees with a smart mobile device. The new device arms a worker entering a hazardous work environment, with audio and video contact links that enable remote monitoring and task directives. An engineer, technician, safety professional or another skilled individual could serve as the off-site eyes and in turn direct an employee's hands during the administration of a task.





- ◆ ATEX, IECex, UL, INMETRO, IP68 Certification in progress
- ◆ Onshore, Offshore, Marine & Heavy Industrial Applications
- ◆ IP68 Fully ruggedized
- ◆ 8 Megapixel camera
- ◆ Bluetooth 4.0
- ◆ Compass Altimeter, Man Down, Track & Trace
- ◆ Dual SIM Standby
- ◆ WiFi 802.11 b/g/n
- ◆ Android 4.2 Operation System
- ◆ Quad Core 1.2 Ghz



The idea is to not send an individual into a potentially dangerous situation alone. In a profession where employees such as gaugers, truck drivers and others access production sites alone, this device could prove crucial in saving lives.

The Spectrum Rough Pro, known as BCom Rough Pro in Europe, is the first Class 1 Division 1 Smartphone on the market.

Manufacturing includes all the hardware features expected of a modern Smartphone, built into an industrial body to ensure constant and reliable communication. It boasts a quad core 1.2 GHz processor and Android operation system to ensure every mainstream app will run flawlessly.

The device keeps track of all employees, while closely monitoring when an employee or employees go down in the field. In turn, it enables swift response to emergencies, supports in-building track and trace, engages automatic alert forwarding to emergency services and provides video documentation of the situation.

The Spectrum Rough Pro also may be preset to record all video to document an incident. In addition, a recording may be used for safety announcements, H<sub>2</sub>S leak notifications and other critical matters. Being able to integrate these devices into a company's existing radio system is a key feature that makes this tool a valuable asset.

Additional features include a generous 4.5" high-resolution display, camera for high-quality photography and video streaming to enable dedicated solutions such as Lone Worker Protection (LWP) and Mobile Smart Worker (MSW). The Global Positioning System (GPS), accelerometer, gyro and compass enable man-down detection features to monitor the well-being of employees in real-time, along with heart-rate sensors and gas detection. The unique dual SIM capability, including dual standby, allows for flexible roaming solutions and increased reliability.

The Spectrum Rough Pro Smartphone mobile device is equipped with numerous programmable preference settings for such things as localization, pre-alarm, alarm sound, non-movement detection, desktop mode, impact detection, impact sensitivity and live-cast call tools.

In the arsenal of quality high-tech safety tools on the market, the cutting-edge Spectrum Rough Pro Smartphone mobile device is the contender for best of class. The features are numerous, programmable and unique. The device is a guardian for the worker, reliable in a crisis and very affordable.

