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## IN FOCUS

# Mobile devices: 4 things to consider

Brian Adamson, *Peak-Ryzex, Inc.*

All mobile computing applications, although varying to different degrees, share similar requirements, including support needs, data security, user acceptance, software configuration, customization, or development, as examples. However, experience has shown that the nature of mobile computing in plant environments pushes four considerations to the top:

1. Safety
2. Ergonomics
3. Functionality
4. Wireless Security

### Safety

There's no question that the safety of users and other personnel in the plant is of utmost concern. Safety in regard to handhelds usually involves two aspects: environmental certifications and operating safety.

First, the plant environment will dictate if any certifications are required, such as Non-Incendive ratings (NI) or Intrinsically Safe (IS) ratings. These ratings are arranged according to class and division, depending upon the environment. For

example, environments that have gas or dust that is or may be of a potentially hazardous composition determine what these ratings are.

Second, operating safety must be considered. If a device is too distracting or obscures the user's view during operations, the potential for accidents increases.

Carefully looking at usage, environment, and any mounting requirements will determine the size, placement, and use of the mobile computing device, maximizing both user and other plant personnel safety.

### Ergonomics

The environment where the mobile computing device will be used has a great impact on the desired ergonomics of the device. If the device is comfortable to carry



**It is critical that proper research is done and certification requirements determined before considering a mobile device for the environment. Courtesy: Peak-Ryzex**

(if carried), easy to operate, and easy to read and/or understand, users will make fewer mistakes and have a better operating experience—and the better the operating experience, the better the user acceptance.

User demographics are also an important consideration when it comes

to the size and weight of devices. For example, if the majority of the users are strong individuals, weight—although always a consideration—becomes a more flexible characteristic of the device. The better the user acceptance, the more productive and satisfied the users.


## Functionality

How the mobile computing devices need to be used to perform business operations will determine the needed functionality. Better performance is gained if the configuration of the device provides the most efficient functionality. For example, equipping a device with a short-range imager may enhance the performance of a close-range picking operation; however, if hanging location labels must be scanned, this will most likely be ineffective.

Some operations can be very repetitive. If a mobile computing device can be configured to perform these repetitive, and often multi-key stroke, operations with the press of an easily accessible (especially if wearing gloves) single configured key, this will increase the operator's efficiency and reduce mistakes and corrections. Functionality that helps the user perform his or her tasks, stay in communication, and log various information, including notes and images (e.g., damaged products), is often very important in a plant environment.

## Wireless security

Hackers are in the news constantly, and wireless systems are becoming their favorite targets. All wireless devices need to be capable of the latest IEEE 802.11i and 802.1x security standards. IEEE 802.11i encrypts and protects data moving over the wireless system, while the 802.1x standards protect the network from unauthorized access.

While these standards protect data and networks, it is just as important to be aware when a hacker is taking interest in your wireless system. Wireless intrusion prevention systems are essential for enabling preventive actions rather than just reacting "after the fact." The key to protection is to make your system so tough that the hackers move to easier targets. 

*Brian Adamson is senior solutions consultant of mobility and managed services for Peak-Ryzex, Inc., and has provided consulting, engineering, implementation, support, and project management services to the warehousing, distribution, logistics, 3PL, retail, pharmaceutical, health care, and field services verticals.*

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