intel®

Improve Workforce Efficiency and Operational Excellence in Oil & Gas

Ruggedized tablets with Intel® processors deliver vital information to field operators, with security and manageability for IT.

800,000

refinery/petrochemical workers are expected to retire in the U.S. by 2017[1]

By streamlining information delivery to field operators, oil companies can help mitigate the knowledge gap created by retiring experts, help improve workforce efficiency, and gain new operational insights.

Industry Strategic Challenges

Today's oil companies are under extreme price pressures, with many compelled to make workforce reductions. Yet the workload in the field often remains the same. Companies are also challenged as the current generation of field operators approaches retirement age. The vital expertise these workers have accumulated throughout their careers could be lost—especially if early retirement is used to help manage workforce reductions. Oil companies need tools to improve field operator efficiency and preserve knowledge, while maintaining high industry safety standards.

Mobile technology offers a way forward to meet these challenges. Equipping workers with field-appropriate mobile devices that let them collect, share, and access information in the field helps companies better capture and retain critical operating knowledge and also generate valuable business insights to reach new levels of efficiency and agility.

Undertaking a mobile workforce transformation can help mitigate the effects of the knowledge drain caused by retirements and workforce reductions. If oil companies can make operating and maintenance information available to field workers through mobile devices, they can more quickly train new operators. At the same time, they can improve the efficiency of their current workforce by making standard operating procedures, work orders, and other critical information readily available to the field.

Business Drivers and Desired Outcomes

- Improve efficiency and productivity of field operators
- Equip field operators with devices suited to their work conditions
- Make real-time data available to inform decisions in the field
- Allow field operators to input data and share it with other operators and the plant
- Preserve knowledge of retiring workers
- Guide on-the-job process training to increase proficiency and safety
- Save time and resources by making training more efficient

Digital Transformation and Business Innovation

Using tablets that can withstand the rigorous environment of the field, oil companies can safely give field workers instant access to key information, including standard operating and maintenance procedures, safety checklists, plant automation/SCADA information, historical data, and work order details. Better access to information helps maintain quality, consistency, and safety.

Deploying tablets equipped with Intel® Core™ vPro™ processors can help companies reliably deliver critical information to field operators and enable more efficient capture of operational data—with the compute power to handle larger data sets, diagrams requiring greater

Solution Architecture for Mobile Data Flow
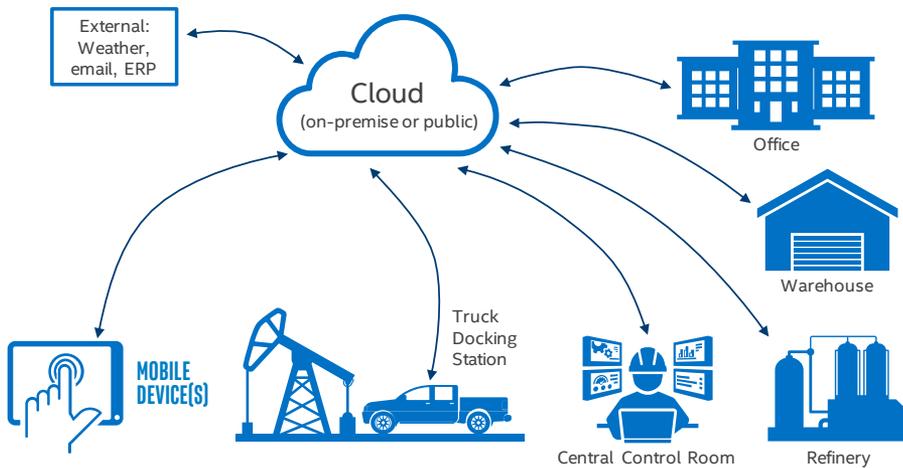
screen resolution, and more use of pdfs and video files. These tablets also feature cameras that enable field operators, engineers, and maintenance technicians to use images to better communicate issues they encounter.

With the right software solutions, they can also record and review data from non-instrumented equipment, fill out safety and reliability checklists while doing their routine duties, and add detailed notes on existing standard operating procedures. This unprecedented access to information improves consistency of field worker actions, facilitates accurate decision making, and captures valuable compliance and asset integrity information efficiently and easily. It also allows the more efficient and accurate capture of best practices.

Remote device management capabilities can maximize device uptime and help ensure field workers can consistently carry out their tasks. If IT groups can patch systems, deploy software updates, wipe hard drives (if the tablet is lost or stolen), and repair operating systems—even if the operating system is inoperable—they can reduce their company's liability and eliminate many of the issues that could cause tablet downtime. They can also avoid the time and resources needed to send in tablets or complete in-person repairs.

If wireless is available, workers can also use tablets to capture field information digitally and immediately interact with back-end systems. In addition, they can reduce or eliminate the need to re-enter data manually into back-office systems.

Enabling Transformation

Field operators make dozens of decisions every day. They are the closest to day-to-day operations and decisions for oil companies. They should have the best access to information so they can be as successful as possible in their jobs, taking consistent actions and making more accurate decisions. This kind of information access on field-appropriate tablets lets them capture compliance and asset integrity information efficiently and easily—and, with Wi-Fi or cellular connections, they can turn this information into insight for the company by sharing the data in near-real time.

Recommended Tablets

Devices are Class 1 Div1 or Class 1 Div2, MIL-STD-810G Certified

Bartec AgileX	Panasonic Toughpad® FZ-G1	Aegex™10 Intrinsically Safe Tablet AEG-MDS-005	Xplore® iX104C5 DMSR	Xplore® XC6 DMSR
• Extremely slim-line, rugged and highly flexible industrial tablet PC for rough environments. • Intel® Core™ M processor	• Lightweight, fully rugged Windows* 8 tablet with 10.1" next generation outdoor WUXGA display • Intel® Core™ i5 vPro™ processor	• Purpose-built, enterprise-class mobility solution for hazardous location environments • Intel® Quad-Core Atom™ processor	• Dual-mode, sunlight-readable, ultra-rugged tablet PC • Intel® Core™ i7 vPro™ processor	• Dual-mode, sunlight-readable, ultra rugged, tablet PC • Intel® Core™ i5 vPro™ processor

Solution Ingredients

Ruggedized Class 1 Division 1 and Class 1 Division 2/ATEX 2 tablets: powered by a range of Intel® processors including Intel® Core™ vPro™ processors with Intel® Active Management Technology (Intel® AMT) and Intel® Trusted Execution Technology (Intel® TXT)

Intel Technology Foundation: Intel has pioneered mobile technologies, connectivity, and security solutions and has powered mobile devices that are enabling the transformation of many industries and their mobile workforces.

Where to Get More Information:

To find the best solution for your organization, contact your Intel representative, register at **Intel IT Center** or visit **intel.com/energy**.