



**Two Technologies, Inc.®**

Hand Held Computers • Your Way • Since 1987

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When **A Picture is Worth a Thousand Keystrokes™**:

 The Next Leap for In-Field Computing

Businesses are looking deeper to find more value in business-process-driven mobile computing solutions. They are structuring their adoption of particular mobility technologies to be part of in-depth strategies for streamlining business systems. They are deriving higher business value from their investment. And they are demanding more accountability from their mobility solutions providers.

When designed to address operational processes, as opposed to taking the more generic approach of capturing data for data's sake, mobility applications and tools do indeed yield a higher return on investment (ROI). They achieve a specific business mission, often enforcing best practices, and they are more intuitive to use, making them easier to adopt, with lower support costs.

According to Aberdeen Group, best in-class mobile adopters clearly see the importance of developing a formal mobile computing strategy. Their C-level executives, especially the CTO, play key leadership roles in formulating the vision and adopting the technology; and these "best-in class organizations had an average 74% ROI on their mobile initiatives as compared to 43% for the overall sample."<sup>1</sup>

As rugged, mobile computer technology advances, innovations to the business mission, and the processes within, are imagined making best possible use of the newly available technology. Conversely, as business goals and objectives evolve, technology continues its advance, getting faster and more powerful. Occasionally, technology takes a leap forward, allowing companies - Independent Software Vendors (ISVs), Value-Added Resellers (VARs), and end-user organizations - with creative vision, to gain a unique competitive advantage.

Recently, hand held computing technology has taken such a major leap forward by integrating multi-megapixel, color camera systems into rugged mobile devices. These next generation hand helds create new possibilities for applications developers and VARs providing new methods for solving persistent and costly business challenges. By adopting new business-process-driven solutions that take advantage of this new technology - integrating rugged hand held computers with true camera systems - customers benefit through lowered costs, increased customer satisfaction, and new business opportunities.

## Proof, Performance and Productivity

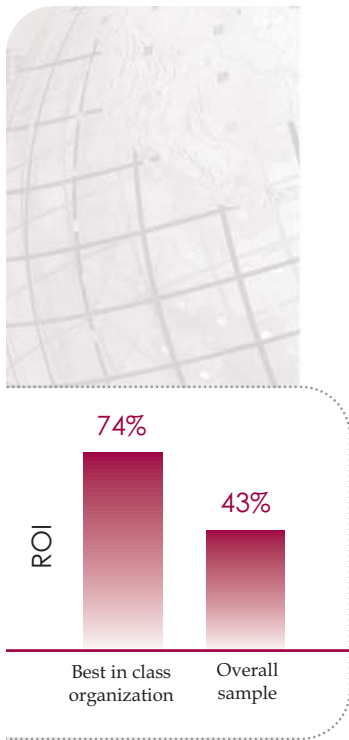
According to Aberdeen, the biggest challenge faced by organizations hoping to mobilize a particular business process is justifying the operational cost associated with the project; the key impediment being the inability to prove the business case.<sup>2</sup> Application providers must adapt and offer solutions which deliver tangible results. They must work closely with their customers to isolate real organizational drivers, uncovering significant areas of improvement that will lead to significant and measurable results.

The best way to do this is to work with the project's internal champion(s) to build and include cross-functional teams that include C-Level membership. Achieving buy-in at the highest organizational levels is essential for the long-term support and eventual success of any IT initiative. This approach is taken by the most successful companies where, according to Aberdeen, fully 74% of the best-in-class firms organized cross-functional teams to address mobility strategies and adoption.<sup>3</sup> Having the input of members who carry responsibilities spanning the functional areas of an organization will help to ensure the vision for the solution will be inclusive of the organization's larger mission and goals, - and therefore achieve a measurable return.

<sup>1</sup> Aberdeen Group, Phillippe Winthrop, "Enterprise Mobile Adoption: A Corporate Conundrum," October 2006.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.



<sup>1</sup> Aberdeen Group

*“Taking the one-size-fits-all, generic approach, typically leads to average outcomes. Developing, branded, purpose-built solutions delivers superior results.”*

-Eric Eckstein,  
President & COO,  
Two Technologies, Inc.

To be successful, the imperative of any organization must be to transcend low value mobile applications (like messaging and other simple forms of collaboration) in order to attain the heights of higher value embedded systems which directly solve pressing business issues. The application’s developers should think “outside the code,” taking into consideration available hardware technologies that can offer end-user customers exceptional efficiency gains as well as a distinct competitive advantage. Working with their customer’s assembled mobility team, they should design a solution that includes the deepest possible integration between software and hardware, if they are to achieve the highest possible levels of ROI.

Generally, the best examples of successful solutions will be those that streamline processes, and significantly cutting costs. They will also improve customer service and relationships, encouraging repeat and referral business. Multi-megapixel camera systems integrated into rugged hand held computers that include a diverse array of wireless capabilities offer developers of mobile applications the latest options for achieving these objectives. Having the ability to take detailed photos as well as process barcodes, can open many avenues for extending the value of mobile solutions. Some examples include; quickly collecting the proof a company needs to process invoices more quickly, heading off frivolous liability claims, and increasing customer satisfaction levels by avoiding misunderstandings and disputes that formerly would have cost the company time and future business.

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## **Making the Business Case**

More and more frequently, frivolous damage claims, losses and litigation, coupled with increasing insurance costs, are hitting the bottom line. This is a phenomenon spread across a wide array of industries, but hitting service businesses, such as trucking, automotive service, and facilities management, particularly hard. Not only can damage attributed to the service provider cost money in claims, but misunderstandings can lead to lost business, as customer satisfaction dips and referral business dries up.

In trucking for instance, Over, Short and Damaged (OS&D) goods claims are a significant burden on the industry. Being able to distinguish between fair and unfair claims would have significant impact on a company’s profitability. Allowing them to lower costs by eliminating unjust charges, process real claims more expeditiously and thus, create better customer satisfaction. A resulting decrease in claims could, in-turn, be used as a selling point, potentially fueling an increase in overall business.

In automotive service operations, such as car dealerships, repair chains, and car rental businesses, it’s not uncommon for disputes to occur. In such cases, the original vs. final condition of the vehicle can come into question, and it becomes the customer’s word vs. that of the business. When customers arrive to pick up their cars, or in the case of rental agencies, drop them off, they take the time to inspect for damage. To the customer, it doesn’t matter if this is the first such inspection they’ve given their car, they are only concerned with the damage they’ve found. In the damage scenario, customers look to the repair center to take responsibility and cover costs.

A simple misunderstanding can trigger a claim or even the end of a profitable relationship. Adding image capture to the vehicle inspection process can eliminate many of these misunderstandings. Having proof of the original condition, in the form of a time-stamped, high quality digital photo, can end the controversy, ultimately saving money and long-term customer relationships.

*“Trying to stove-pipe disparate devices was proving too ineffective and costly for solutions providers as well as their end-users. And consumer-grade phones cannot deliver the quality imaging nor hold up under the rugged conditions demanded by commercial applications. Clearly, there was a need to integrate camera systems and hand-held computers into one rugged device.”*

-Eric Eckstein,  
President & COO,  
Two Technologies, Inc.

Governments also face escalating costs when discrepancies occur. For example, in many cities parking violations represent a significant source of revenue. However, the appeals process, successful or not, can create a costly burden for the municipality. There can also be political fallout. Having the ability to attach a high resolution picture to the record of the violation adds a new element of proof that can head off appeals before they over-burden the system. Proof, in the form of a photo, can increase levels of constituent relations by clearly demonstrating that the citation was warranted.

Facilities management companies have been on the forefront of capturing detailed image records of the properties they're maintaining. For example, companies that manage cell towers have been taking pictures of their facilities and the equipment therein for years. They have clearly seen the value of documenting the evolving conditions of the properties they manage. The challenge they have faced has been integrating this process into their overall service system and managing the multiple devices they had to deploy; separate non-rugged cameras and hand held computers. The overall disconnect between camera, hand held computer, and back-office systems has created undo overhead in an attempt to bridge the gap. At the same time, cell phones, lacking the ability to capture significant data and detailed images, have been found to be entirely inadequate.

## Enter the JETT•eye™

In the final analysis, businesses and government agencies alike need to find ways to protect themselves from frivolous claims and resolve just claims fairly to retain hard-won customers. Trying to avoid discrepancies with customers is not a new endeavor. People have been offering their signature to prove receipt of goods since the inception of capitalism. With the advent of electronic recordkeeping technology, the desire for proof and measurement has continued to grow and manifest itself in a myriad of ways. A few years ago, electronic signature capture by electronic devices was one such innovation that changed the way many companies capture proof in the field.

As noted above, some integrators, software providers, and end-user companies have already envisioned using camera technology to provide a variety of forms of proof for their customers. However, until the imaging technology could be integrated into the hand held computer, there were some stark limitations. The first attempts to capture photos relied on consumer grade cameras. These were not rugged and therefore prone to damage. They were not integrated, causing end-users to carry an extra device, a limitation that lowered adoption and overall had a high cost of ownership. Units were lost, and customers also experienced increased damage and theft. The need for extra IT resources to tether the devices to existing systems and to maintain these connections also drove up costs.

Recently, Two Technologies introduced the JETT•eye, the world's first customizable, rugged hand held computer - integrated with a 5.17 megapixel color camera, barcode imager and wireless connectivity. The JETT•eye is an advanced, yet affordable hand held computer that lets users easily capture color digital images and data in any remote location and seamlessly transmit this information back to a main office, manufacturing facility or other centralized location. Developed in response to customer requests for a high performance hand held computer with digital photo capabilities, the JETT•eye is highly suited for a wide variety of applications where it's critical to capture, store and transmit visual information.

The JETT•eye's camera system includes a 5.17 megapixel color CMOS sensor - 4 megapixel processed. It is equipped with a true-shutter that can achieve a variety of shutter speeds up to

*“Delivering solutions that yield the highest business-driven value to the customer with the lowest total cost of ownership must be the objective for all mobile application developers. The market demands this. The fully customizable JETT•eye platform was developed entirely with these objectives in mind.”*

-Eric Eckstein,  
President & COO,  
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1/500 of a second. The camera's true-focus system includes four methodologies to ensure that the process of taking an image is quick and efficient: macro 2.225" near to infinity, far focus, eye•WARE™ automatic scene focus, eye•WARE automatic laser focus system (dual precision aligned red lasers, software system focus, software measurement system), and software selectable manual focus. Image capture resolutions include QSXGA: 2048 x 1944, SXGA 1280 x 960, VGA: 640 x 480, and HF 320 x 200.

Wireless connectivity for the JETT•eye includes personal area network, Bluetooth Class 2, local area network, 802.11b/g, wide area network GPRS or CDMA (optional), and dedicated area network JETT•WAVE (optional) – point-to-point, broadcast and relay configurations; range up to five miles; 256bit encryption available.

The JETT•eye is truly rugged, achieving an Ingress Protection rating of IP65. This means the unit is dust tight, with no ingress of dust, and protected against rain.

Further adding to its flexibility, the JETT•eye has been designed to be highly customizable and branded, to better suit the needs of multiple applications and industries. Two Technologies provides many easy and straightforward ways to make its rugged hand held computers into seamlessly integrated system components. The company specializes in customizing both appearance and operation to meet your requirements at little or no additional cost, and they can also provide an array of peripheral solutions to best meet your needs.

Creating a hardware offering branded to your specific application will provide you with many advantages, such as, lower training and support costs, quicker implementation times, improved user adoption and higher customer satisfaction, as well as a consistent branding experience.

All standard units are delivered “PACK Ready.” Along with making customizations more efficient to accomplish, the PACK provides an economical means to “future-proof” the hardware investment, by making it easy to add new technology as business needs change over time. Utilizing a PACK approach also has significant benefits for compliance testing since, as well. Individual PACK devices may be tested separately. This significantly decreases the cost and time required for compliance work.

The JETT•PACK® is a cartridge system that allows peripheral devices to easily mate with the JETT•eye. The PACK system is comprised of a mounting bracket assembly (PACK CONNECT) along with an enclosure assembly (PACK). The mounting bracket assembly is attached to the back of a “PACK Ready” JETT. Various PACKs may be interchangeably inserted into the PACK CONNECT.

Adopting technology like that inherent in the JETT•eye gives application developers and VARs a significant advantage as they endeavor to create solutions that deliver the business value and ROI their customers are ultimately looking for. By thinking “outside the code” and incorporating this bleeding-edge hardware technology into their overall solution during the design phase, they will save time and money, and will gain a key competitive advantage over their rivals. The multi-megapixel camera, fully integrated into a rugged hand held computer and equipped with wireless connectivity gives solution providers the edge they need to create best-in-class solutions.

## About the GEM Partner Program

Two Technologies' GEM Partner Program provides strategic assistance in creating successful mobile computing solutions for the global market. The program, designed to help increase profits while minimizing risk, offers advantageous pricing, a full suite of support tools, and personalized attention. This adds up to a valuable program that assists partners in offering extended solutions and increased value to customers in a wide range of industries and applications.

GEM Partners include international and domestic Value-Added Resellers and System Integrators whose capabilities complement our product offerings and services. Partners team with Two Technologies to provide software, expertise, services, and distribution support in bringing mobile computer products to the world. This multi-level program allows partners to participate at the level most appropriate for their business objectives. To learn more about the GEM Partner Program please visit: [www.2T.com/GEM](http://www.2T.com/GEM)

## About Two Technologies

Two Technologies Inc. designs and manufactures branded, rugged hand held computer and terminal products for global applications. With over 4,000 customers and one million products in the field, its devices are deployed worldwide, helping to improve operational efficiency and bottom-line performance. Founded in 1987, Two Technologies continues to be recognized for providing unsurpassed value and service to its VARs and OEM customers. The company has succeeded in leading its market segment by providing high quality, cost-effective, customizable products with industry-best customer service. The company's highly automated manufacturing and test facility in Horsham, Pennsylvania is a model for state-of-the-art, surface mount assembly and is certified to meet ISO 9001:2000 Standards. All standard products from Two Technologies are FCC and CE certified, and RoHS compliant.

To learn more about our products and services visit us online at: [www.2T.com](http://www.2T.com)



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