

Sundt Construction, Inc.

Leading contractor provides managers with immediate access to dynamic construction documents in PDF, reducing costs, minimizing rework, and creating greener ways to build

Sundt Construction, Inc.

www.sundt.com



SUNDT

In Partnership With

Motion Computing

www.motioncomputing.com

Industry

Architecture, Engineering & Construction

Challenges

- Improve document access and review in the field
- Cut construction waste
- Reduce errors and rework on buildings

Solution

- Construction management
- Design collaboration

With Acrobat 9 Standard, Sundt Construction is equipping project teams in the field with tablet PCs containing plans, specifications, and other documentation delivered as dynamic PDF documents.

Results

- Saved tens of thousands of dollars on document printing and management costs for large projects
- Kept projects on track and within budget with faster problem solving
- Differentiated services to compete for new business
- Accelerated field staff access to critical building plans
- Reduced archiving and warehouse costs
- Met government regulations with searchable archive of materials in PDF

Employee-owned Sundt Construction is one of the oldest and largest general contractors in the United States, overseeing construction projects costing tens of millions of dollars and involving hundreds of subcontractors and vendors. Sundt's vision is to inspire people to go beyond the expected. With a new solution called ROCK, an acronym for Remote Office Construction Kit, Sundt is helping make its lofty vision a reality.

Based on Adobe® Acrobat® 9 Standard software and ruggedized tablet PCs from Motion Computing equipped with integrated digital cameras, ROCK (<http://www.sundt.com/remote-office-construction-kit>) is streamlining communications, reducing errors on projects, cutting waste, and boosting employee and subcontractor productivity; not to mention helping Sundt win new business.

Instead of having to print and carry thousands of pages of 2- by 3-foot plans onsite, as well as stacks of specifications, codes, regulations, and requests for information (RFIs), Sundt now equips project teams in the field with tablet PCs and manages projects using dynamic, electronic documents in PDF. A typical set of plans including changes and instructions could easily reach 5,000 pages, which is impossible to carry around and extremely costly to reproduce for the multiple sets required on a job site.

“With Motion's tablet PCs and Adobe Acrobat software, we have a feature-rich, cost-effective solution that transforms the work our owners, employees, subcontractors, and customers can do,” says Frank Bejarano, project manager for Sundt. “We looked at several digital construction management solutions, but they were expensive and difficult to use; definitely not a good combination in today's economic climate and with a workforce that can be wary of new technologies.”

Bejarano estimated that the cost of digital construction management solutions were a tremendous expense and an inefficient use of company resources. But for almost the same cost, Bejarano could combine Acrobat 9 software with the tablet PCs to give project teams of up to 50 people ready access to digital construction documents in PDF, anywhere on a construction site.

“The combination of Adobe Acrobat software with Motion tablet PCs is a powerful tool for improving productivity, collaboration, and quality on the job site,” said Mike Stinson, vice president of marketing for Motion. “Sundt's positive results show that an easy-to-use computing solution that provides immediate access to information across the construction project can reduce costs and significantly impact completion times.”

Interactive documents, faster answers

Sundt's large, complex construction projects span everything from military barracks to hospitals and dams, wastewater treatment plants, airport extensions, schools, and correctional facilities; all requiring substantial documentation. Previously, Sundt had to reproduce multiple paper copies of plans and other documents for project teams, at a cost of tens of thousands of dollars per

Based on Adobe Acrobat and PDF, Sundt's ROCK system streamlines communications, reduces errors on projects, cuts waste, and boosts employee and subcontractor productivity. Sundt equips project teams in the field with tablet PCs and manages projects using dynamic, electronic documents in PDF.



project. Now, when Sundt receives plans from architects, the company requests them as PDF files. Sundt also converts accompanying materials such as specifications to PDF so that all pertinent documentation is provided as a set of dynamic, interactive PDF files on tablet PCs for field use.

The interactive plans in PDF allow construction supervisors and others to click on specific portions of a plan and immediately link to the appropriate page or detail. Shortcuts to specific pages and detail views make answering questions a fast, straightforward process; one that has made ROCK a success among employees and contractors and helped reduce waste and keep projects on track and within budget.

Sundt is also planning to convert 3D models to PDF to provide an even richer, more detailed set of information for project teams in order to minimize issues and errors.

Systems At A Glance

- Adobe Acrobat 9 Standard
- Adobe Reader®
- Motion Computing Tablet PC

On the spot answers, fewer errors, and less waste

ROCK is especially useful for construction superintendents, who are the main point of reference for any questions from subcontractors. Now, whether an electrician needs to know where a specific outlet should be located, or a plumber is not certain about the specifications for a drain, superintendents can answer the question on the spot without having to go back to the construction site trailer, leaf through thousands of pages to find the answer, and return only to find that the subcontractors moved ahead on their own.

“When mistakes are made—say an electrician puts an outlet in the wrong place—it might mean that drywall needs to be removed and replaced, resulting in delays, higher costs, and material waste,” says Bejarano. “Now, with ROCK, superintendents have the information at their fingertips. They spend more time out on the site versus in the construction trailer, so questions are answered on the spot and fewer errors occur.”

Dynamic documents, updated daily

Every day, onsite project teams can use the comment and markup tools in Acrobat to take notes, and draw on specific areas of documents to note key changes or concerns directly into the file on the Motion tablet PC. They can also note when each issue is completed or in review, and upload digital photos for added clarity. Once project teams connect to the Internet, any available updated documents can be downloaded, providing field staff with ongoing access to the most accurate, up-to-date documents.

Construction supervisors can also use their tablet PCs to complete mandatory daily logs noting temperature, materials delivered, and other details. On-the-spot record keeping saves time and reduces risks for Sundt by providing a comprehensive archive of decisions and the rationale behind them.

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Frank Bejarano,
Project manager,
Sundt

For More Information

www.adobe.com/products/acrobatstd/
www.adobe.com/products/acrobat/solutions/aec/

Taming paper proliferation

With ROCK, Sundt is further reducing paperwork tracking and management. With most construction documents, it is inevitable that agreements, drawings, and specifications will not adequately address every single matter. Sundt often receives thousands of RFIs for projects inquiring about details or specifications, and each must be reviewed and resolved as part of an exchange among project engineers, architects, and the client. Every RFI must also be carefully tracked and archived, a step previously accomplished by taping each RFI directly to the project plans.

“The volume of paperwork required to manage, track, and complete a construction project—including RFIs, interactions with architects, and more—has exploded over the past few years,” explains Bejarano. “We recently completed one project that generated more than 3,000 RFIs. We can now convert them to PDF for reliable tracking and archiving through our Prolog document management system.”

Going greener

For Sundt, ROCK reduces costs and supports greener building practices. Like most construction companies, Sundt maintains expensive warehouse space to store paper documents for legal purposes, a practice that can be eliminated by creating a reliable archive of documentation in PDF.

In addition, the company is reducing waste on several fronts. “We no longer have to pay tens of thousands of dollars annually for photocopies, many of which are discarded as documents are updated and redistributed,” explains Bejarano. “At the same time, construction waste is reduced, because more automated document review processes make it easier to catch and correct construction mistakes sooner.”

Better building, better business

When projects are complete, Sundt trains clients on how to operate their new facilities. In the case of a wastewater treatment plant, clients need to learn how to run all the complex equipment related to the facility. “Now, instead of handing them boxes full of 4-inch-thick binders, we convert their operations and maintenance manuals to dynamic, easily navigated and searchable PDF files and put them on the tablet PC,” says Bejarano.

According to Bejarano, ROCK is also helping Sundt win new business. “In today’s economy, competition is intense among contractors,” he says. “With the ROCK system based on Adobe Acrobat, we’ve helped distinguish ourselves as an innovative contractor focused on automation and efficiency.”



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