ENTERPRISE CONTENT MANAGEMENT (ECM) FOR THE CONSTRUCTION INDUSTRY

There are a number of issues facing construction companies and their owners today in regards to handling information within their organization, particularly in hard-copy form.

According to studies:

• 40% of an office workers time is spent handling paper.

• At any given time 3-5% of documents are lost or misfiled.

• The Gartner Group says it costs $ 7.50 every time a piece of paper is touched.

• An average of seven copies are made of each original and different notes are made on each copy with no master copy.

This whitepaper discusses specific data-handling challenges and how to maximize your company’s productivity with an integrated Enterprise Content Management (ECM) system.
ECM defined
By definition, Enterprise Content Management is the strategies, methods and tools used to capture, manage, store, preserve and deliver content and documents related to organizational processes. ECM tools and strategies allow the management of an organization’s unstructured information, wherever that information exists. In other words, ECM cleans up the mess of scattered documents, data and information and puts them securely in a digital safe for easy organization, access and distribution.

Times have changed
There are a number of issues facing construction companies and their owners today that make the business more challenging than ever. Responding to those changes is necessary for success and a leg up on the competition. Some of the major issues and roadblocks toward goals we have seen confronting construction executives are:

• Owners want to build wealth in their business (either to pass on to their families or for resale).
• Risk is a big factor in construction today – lawsuits, claims, over-estimating jobs. A better way is needed to control and monitor these risks.
• Owners would like a long term reduction in costs, but want every initiative to contribute to the bottom line the first year. They want to get the “most bang for the buck”.
• Owners and their executives need to understand where they are on a job and be able to review all information needed for decisions. The world of email, instant messaging, and voicemail demands this.
• Owners want to give their Project Managers the best production tools to bring the job in on time and at or under estimates.
• Owners want to make the business process simpler, not more complex, but are hesitant to deal with some technology solutions they see as complex. They would like to reduce the paper flow and the constant search for documents.
• Some owners want to take more time off to enjoy the hard work they have done in their earlier years.
However they want to stay in touch and be able to access information and documents as if they are in the office.

- Owners want to manage their operations for maximum profitability.
- Owners would like a more defined process to achieve the desired results. They want to insure everything gets taken care of on time, documents are not lost or seen, and the staff is following the path directed by executives.
- Some executives are very concerned about regulatory compliance and want to insure their business meets this compliance.

Owners and key executives have the long range vision for the company and have to lead the charge. However, in our research and experience we have found company leaders understand the issues, but often don’t have time or ability to research the solution. They hope for an easy fix or pass it down the chain of command for others to handle. Executives fear the failure of new systems, however, the most successful installations are those with executive involvement. The time on the front end to set the vision and direct the path for the right solution is paid back ten-fold in a successful implementation.

Another issue that business owners fear is a technology installation that takes months or even years or sails past the established budget. That’s why a “best-of-breed” solution is so important. These solutions work with construction companies of any size or type, providing the firm the option of implementing a system that is configurable - allowing the company to still “have it their way” without custom modifications, costing much less and requiring significantly less time and effort.

Additionally, many executives looking at options don’t realize the unique capabilities and benefits derived from an ECM strategy. Of course, these unexpected benefits are routinely cheered once implemented, because it’s always a pleasant surprise to receive more than expected.
The following are some of the important benefits ECM provides for solving the issues so many construction executives and their organizations face.

**ROUTING AND APPROVAL OF INVOICES**

While visiting hundreds of construction companies over the past ten years, we have determined that getting an invoice approved averages about three weeks. Project managers either have to come into the office or receive a copy of the invoice by mail - possibly cost code the invoice, make sure it matches the PO and the delivery ticket, then approve and return it to Accounting. The process can be overwhelming and tedious.

In fact, in many companies an invoice may go through five approvals with various people cost coding, approving, passing it to another for a final approval based on dollars or division and then sending it back to Accounts Payable. The reality is, approvers are very busy managing their daily tasks and “paperwork” is an item they’d like to not worry about. Making matters worse, if material has not been delivered on a job or the pricing is inaccurate, the approver will most often hold the invoice, causing a problem since Accounting isn’t aware of the issues when they vendors call. For this reason, many companies have decentralized the process so the approver can receive invoices at their location, approve, and pass to Accounting rather than a two-way process.

Regardless of the invoice approval method a company utilizes, the fact remains that invoices are often lost or misfiled. Even if you’re making a copy and logging the invoice before sending for approval in case it’s lost, you’re still adding steps and time to a process that could be managed much easier.

**The Electronic Advantage**

With electronic routing and approval of invoices with ECM and workflow, the entire process is shorter, less complex, and productivity is greatly improved. ECM and workflow enables the centralizing receipt of invoices, allowing the receipts to be received, scanned and routed electronically that same day to...
the approvers. Approvers can be notified of invoices either by a pop-up box or by an email and can match the invoice to the PO and Delivery Ticket if it has been scanned or brought in from the accounting system.

While viewing the invoices, approvers can pull up related documents such as liens, lien waivers, contracts, insurance certificates and associated documents - everything the approver needs to approve the invoice. The invoice can then be coded with valid cost codes pulled from the accounting system, which once approved, can be automatically passed to the next approver, either by position or dollar amount of the invoices. Typically, an approval should occur in less than a week. Most importantly, the approval process works the same way every time, making sure that an established procedure set is followed.

Additionally, with electronic routing and approval, invoices that go to the wrong person can be returned to Accounting with one simple click. And for invoices needing to be held for approval, notes and other markers can be applied to annotate why it has not been approved. This keeps the Accounting department in the loop so they are prepared when the vendor calls.

**Accountability and inquiry**

Lastly, electronic routing also maintains accountability within an organization. Within the system, a list of approvers showing their number of outstanding invoices can be displayed in a report so that a manager can follow up and make sure they’re approved quickly. This feature not only keeps Accounting on its toes, it ensures your company is paying its vendors so that projects can move forward.

Another great feature of a comprehensive content management system is the ability to answer questions or inquiries quickly, without searching aimlessly for the information. If there is a question on an invoice, the document is passed to the email system, the recipient is pulled and the invoice is emailed in seconds.

**Just do it**

Managing invoices is a major task for any contractor and while it can be a big headache for your
Accounting group and the designated approvers, having an electronic routing and approval solution in place can make the process organized, simplified and well, pretty painless. Don’t let your invoices pile up or get lost – take a look at what’s out there. You’ll thank yourself at the end of the month.

**COST-PLUS AND T&M BILLING**

We have seen more and more companies required to provide owners cost-plus and T&M backup for their jobs. This is an extremely time consuming process, ranging from making duplicate copies once an invoice is received to pulling all invoices that need to be billed. Sometimes reports and timesheets or timecards have to be pulled. All these have to be copied, reconciled to the invoice, and then sent to the owner.

With full-function ECM systems, the invoices, timesheets, and reports can easily be selected by job and timeframe, invoices can be removed or added, and those that are finally selected are marked for the billing. A CD is created with the images of the invoices, timesheets, and reports, with an imaging viewer and the document indexes for the owner. The owner then can view all invoices for a certain cost code, for a certain dollar amount, and have the benefit of a paperless system. This creates additional value for the owners, giving them the incentive to do business in the future with the construction company.

**JOB DOCUMENTS**

Job documents are the most critical documents in a construction company and also the most difficult to deal with. With lawsuits, claims, and disputes “he who has the best documentation, wins,” so making sure the document is available is critical in today’s environment.

Frequently a document needs to be sent for review or approval, and needs to be tracked to make sure a document does not get lost or not seen.

Manually sending documents around a company is time-consuming and error-prone. Best-of breed ECM and workflow systems allow the companies to
electronically file, route, and store job documents many ways for easily viewing both in the project management and in conjunction with other systems. These systems allow job documents scanned in a batch and then either routed to a person for indexing or to be indexed as a byproduct of entry into the project management system. Typically documents are indexed by job #, date, and document type. Based on job #, other indexes, such as job name, address, project manager, superintendent, automatically can be filled in. If one of these parameters is changed on a job, others can be easily backfilled. There are certain key indexes that refer to all job documents, but there are specific indexes needed for certain document types.

A very important aspect of any system working with job documents is the ability to track which person a document has been sent to, if it was received, and from where it was sent. A complete audit trail is needed for compliance as well as to make sure everyone sees the documents they need to see. When a document is opened, the recipient needs to know who else was sent the document and if they have read it.

Being able to store all job documents in one place, being able to route, and being able to see who has seen the documents and knowing that a document will never be lost is a very important part of any ECM system.

**OCR AND FULL-TEXT SEARCH**

In the normal course of business, the best way to find most documents in an ECM system is by index fields such as job #, date, document type, etc. However, for a lawsuit or claim, or even for a very large RFP, OCR (Optical Character Recognition) and Full-text Search software allows you to “read” the scanned documents via OCR, combine those in text format already, and then do a full-text index. This procedure indexes the documents on any and every word. You’re able to find all the required documents, reduce your personnel time looking, and ultimately reduce your legal costs. Robust systems even enable OCR of landscape pages and looking up a combination of words.
OTHER APPLICATIONS

Other applications of an effective ECM system include:

Human Resources - With ECM, all staff records are available in seconds. When an employee calls or there is a request for employee information, the document can be pulled and questions answered quickly. Additionally, superintendents can review past work history for applicants seeking to be rehired. Security is greatly enhanced and compliance is easy to attain.

Equipment - Companies have to maintain thorough equipment records and ECM enables all records to be kept in one place and obtainable in seconds. OEM manuals, warranties, titles, work orders, parts orders and other documents can be stored by equipment number, asset number, model number, serial number, etc. and can be accessed in seconds.

Ticket - Plants creating their own tickets can scan tickets, read (with OCR) the ticket # and backfill from the plant computer items such as customer, tonnage, driver, truck number, date and time, and other information. A ticket can then be pulled instantly by customer or any criteria and emailed or faxed to show signatures.

CLEAR ADVANTAGES WITH ECM

With Citrix and Terminal Services, project managers and superintendents can view images at the job site or at home. They can even be viewed from wireless devices or a tablet PC, making staying on top of mission critical documents easy. The bottom line is that companies that embrace ECM will be more organized, keep an edge on the competition and ultimately stay profitable by utilizing this innovative, affordable technology.

For more information, contact Construction Imaging at productinfo@viewpointcs.com or call 800.333.3197.