



How Baker Energy gets a job well done

FACTS

Customer: Health Decisions, a Clinical Research Organization (CRO).

Challenge: Speeding up the delivery of data from clinical trials and improving data accuracy.

Solution: A solution using Mi-Forms from Mi-Co, based on Anoto digital pen and paper technology. The solution includes a Mi-Forms Client, Mi-Forms Designer and Logitech digital pens.

Benefits: Faster incorporation of data, greater data accuracy, ease of use and the possibility to combine the Digital Pen and Paper solution with technology such as Optical Mark Recognition (OMR).

Doing away with data entry

Clinical trials require the collection and analysis of large amounts of patient data from a number of trial centres.

Many clinical trials management systems currently rely on double key data entry, in which data is entered into computers from medical records by two different people, then verified by a third. This is time-consuming and not very accurate.

Web-based data entry, using validation tools to avoid the need for a verifier, is less expensive but also less accurate. Optical Mark Recognition (OMR), using paper 'bubble' forms, removes most of the difficulties of the other two methods and has a great degree of accuracy, but brings with it the problem that the sheets need transporting to an optical scanning station to be entered into the database, which is an inefficient process.

Ensures data quality

Health Decisions, a Clinical Research Organization operating in North America

and Europe, is now using the digital pen and paper solution Mi-Forms from Mi-Co. The solution has all of the benefits of optical mark recognition, but with the added advantage that data can be transferred instantaneously to the database.

With the Mi-Forms digital pen system, incorporating Anoto technology, patient information is filled in on paper forms printed with a special dot pattern. This pattern, while unobtrusive on the page, enables the tiny infrared camera in the pen to pick up what is being written on the form, and store a precise digital image of the form.

As soon as the data is collected in the pen it can be docked with a computer system installed with the Mi-Forms client, which provides the dialogue between the digital pen and the Clinical Trials Management system. Mi-Forms' handwriting recognition technology checks for errors, ensuring data quality.

Fewer corrections

Health Decisions sometimes uses the digital pen solution in tandem with the

OMR solution. In other words, the OMR bubble forms are printed with the Anoto pattern, so that the advantages of both systems can be combined.

"Health Decisions has found these solutions to be four times as accurate as the web-based data entry option, leading to fewer post-entry corrections and less possibility of future audit challenges," says Rick Farris, Chief Operating Officer of Health Decisions.

Farris also praises the advantages of digital pen and paper over the double entry method.

"Far fewer people need to touch the data during entry and validation," using digital paper and pen, Farris explains.

Another key advantage of the digital pens is that they are easy to use.

"It has a small learning curve," explains Farris. Once the users are up and running, the time taken for data collection is slashed.

"All that is required of the user is to transcribe the clinical trials results onto the 'smart' case report forms," he says.

These forms are

created by Health Decisions themselves, using Mi-Forms designer, which incorporates the Anoto technology. Once the pen is synched with the computer, it transmits the observations to the computer, and they are collected in the Clinical Trial Management System database.

Customer profile:

Health Decisions is a leading provider of worldwide comprehensive clinical research services to pharmaceutical, government, and non-profit organizations. The company has received numerous awards for technical excellence and growth, including three-time inclusion in the Inc 500 and Technology Fast 500 and the Cisco Growing With Technology Award. The company has offices in the United States and United Kingdom.

www.healthdec.com

Partner Profile:

Mi-Co provides enterprise software to increase the efficiency and effectiveness of the entire process of capturing and using data. Mi-Co's end-to-end Mi-Forms Software System enables the capture, handwriting verification and communication of forms based and free-form pen-on-paper data for enterprise users.

www.mi-corporation.com

Anoto Digital Pen and Paper technology

An Anoto Digital Pen looks and feels like a normal ballpoint pen. However, it contains an integrated digital camera, an advanced image microprocessor and a Bluetooth® transmitter. Any paper can be used with a digital pen, if the Anoto dot pattern is added to the layout before printing the paper. The Anoto dot pattern consists of numerous black dots that can be read by the digital pen, but are almost invisible to the naked eye. The pen reads the pattern and registers what and where the user writes.