

e-Fitting

By Jason Delevan, TUKATECH

What Is e-Fitting? Why e-Fitting? And What is e-?

Everyone's talking about this new idea, called e-fitting. 'e' stands for Electronic fitting. It is by far the biggest buzz in the fashion industry. You've seen magazine articles on the concept, and presentations in various trade shows. Sometimes it's called virtual prototyping, or virtual sample making. Most people know it has something to do with 3D and computers, but what exactly is this process, and how does it work? How will it help the fashion industry? Who can really implement this technology?

Can I sell you a Honda Civic? Would you buy a Honda civic at \$50,000?

Of course not, but the truth is that, if we made cars the way we make apparel, a Honda Civic would sell for \$50,000 or more. Imagine making the entire prototype of a car from a sketch and THEN determining if the look is acceptable; making a tall office building and THEN trying to change the location of elevators, windows or doors. Of course not, almost all products are developed by 3D modeling and 'e' or digital data plays a major role.

In the Apparel Industry, we make the entire garment (first sample), and THEN determine if how it LOOKS and fits. Thereafter we keep modifying by making sample after sample to get an acceptable LOOK. After the LOOK is approved the entire sample making process is repeated to get an acceptable fit.

The average number of samples before a product is released is THREE and it takes approximately six weeks for approvals. Some products take longer. In this fast moving world, faster and fastest is still not fast enough. We are really at the beginning of a new era, Electronic Era, Internet, e-mails, SKYPE and many other technologies that are changing how we live and conduct our business. Although we all recognize the need to get faster approvals for samples to get faster production, the apparel industry continues to oil and grease the same old machinery hoping to make it go faster.

Most industries today use computers to test a product before they create it.



The garment industry, however, is still sewing garments and THEN testing them.

Historically the Fashion Industry is run by Artisans of many specialties- creative persons design and sell, while the economically challenged produce the garments. We have almost exhausted the resource of a cheap labor source; however, the pressure of reducing waste continues, and everyone is reciting the same Mantras, "I want it faster," "I want it cheaper." As there are no margins left in this business unless technology is implemented, we will just continue chanting and nothing will change. Unfortunately, adopting technology is meeting with tremendous resistance. The old timers are not ready to embrace technology and are skeptical and the newcomers lack the knowledge of experience. The biggest challenge facing developers is producing systems that the older generation can use while the younger generation acquires the experience.

Let's review some facts that are the present reality of the Industry

- Average markdown in retail is 31%, (too big a number to ignore)
- Average labor cost from exporting countries is between 8% to 12%, (too small a number to panic) even if there is a saving of 25% labor it will be 2% to 3% of the total selling price, can we use them for other processes.
- Average cost of importing goods is 8% for QC, commissions, travel, sourcing executives,
(I could have made it in the country where we sell for almost the same COST but faster, lowering the risk of markdown)
- Average cycle time from concept to consumer is 150 days.(This is the problem area that needs to be addressed.)
- Average time taken for the Concept to develop through Tech Packs to Approval is 90 days.
(Before globalization it was definitely faster, though not cheaper to do it in-house.)
- Average cost of a acquiring a sample in USA is running at \$400 to \$1,200 depending upon the garment and the label. (We really need the help of the exporter in cheaper labor countries.)
- The number of units per style are down and will continue to decrease, this will add work load to develop more new styles to maintain volume of business.

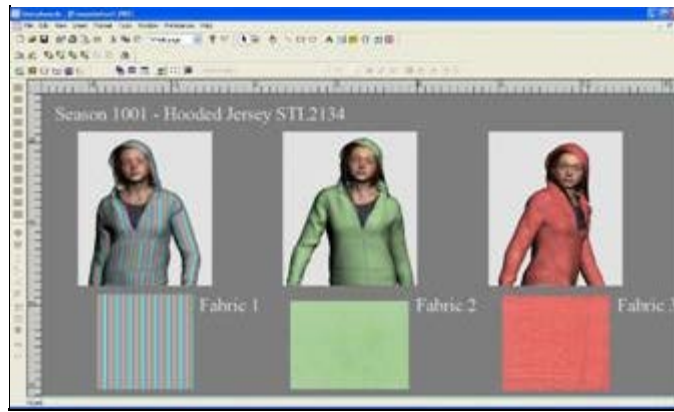
(This is where the panic button is located.)

So how does it really work?

There is one constant in the industry and that is brand FIT. A brand loyal consumer walks in the store looking for the brand they know fits them well, then they review what fashion is being offered by that brand, if they like any garment, they take it to fitting-room, and try it on; of course, it FITS. The consumer now looks at the price sticker and maybe is shocked but justifies the price by looking in that mirror one more time, debates over whether it is affordable and how good it fits and looks. It all boils down to FIT, not just fit but consistent fit that develops brand loyalty. Are you willing to compromise that?

Did Globalization help?

NO, not in design and development; we are all trying to reduce our cost by outsourcing without any consideration for skills, infrastructure, know-how, experience and consistent partners / suppliers. It was faster (not cheaper) when we were vertical, pattern makers were in sync with the designers and the measurements, fit model's shape and size were available to all immediately. They had "master-blocks;" they knew EXACTLY what the designer wanted just by looking at a scribbled sketch. No Tech Packs, No PDM packages, no technical designers. Just pattern makers, sample sewers, the fit model, and, of course, they were all present during the fit session.



Designers communicated in person, with the pattern makers and sample makers who saw the fit model wearing the garment and saw the fit problems which were corrected all within a day and made ready for approval. This has changed drastically. The present situation is: the design room and the fit model are generally in one country where the concept is created for a market, the sample and production is going to happen in another country where the designer and fit model may or may not travel to. Immediately there is a possibility of a communication problem. Several years into globalization the industry has realized that the possibility of miscommunication has become a reality and in fact it has turned into one of the industry's biggest nightmares.

The Name e-fit Is Born

One solution to this problem has been introduced by TUKATECH. In 2004, TUKATECH began work on a new software product that it dubbed the e-fit Simulator by TUKA. TUKATECH's goal was to create realistic garments on the computer from actual patterns, so that designers, patternmakers and buyers could make fit comments and suggest alterations more quickly.

The company wanted this "digital garment" to be portable, so that people all over the world could view the garment, and it should be easy, so that patternmakers of all levels could use it as part of their development process. A year after original discussions, TUKATECH released e-fit Simulator to the market, and eventually the name e-fit stuck and is quickly becoming a standard term.



What does e-fitting Mean?

E-fitting stands for electronic fitting, which is a way of saying, "testing fit on the computer." Just as you have a fit session for a garment in real life, with a fit model and a design team, e-fit Simulator takes digital patterns and turns the pattern pieces into "virtual cloth" that can be sewn in the computer and tested on a 3D fit model, right in the software, showing you exactly how the garment is going to look before you sew a single real sample.

This means that you can make design decisions by visualizing the garment digitally – no need to buy fabric, stop work on the project until the Fed-Ex representative arrives, or wait your turn in the sample room line before seeing how your creation looks.



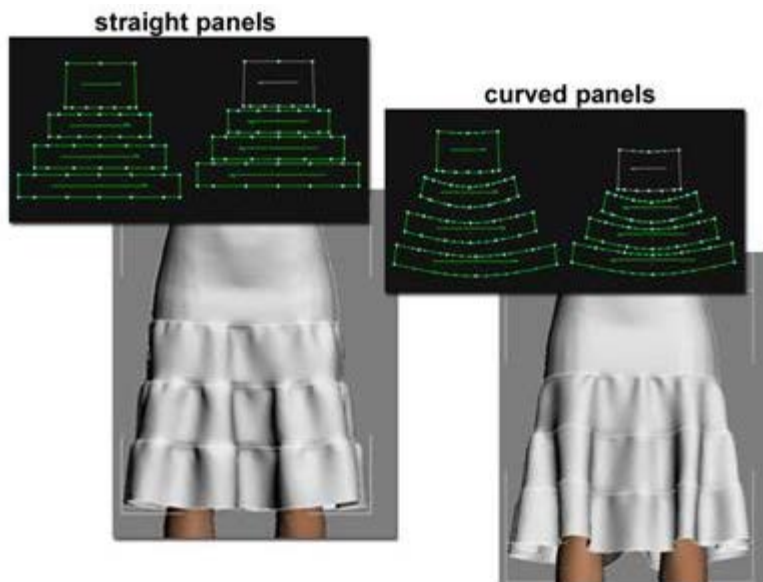
Most industries these days use computers to test their products before they produce them in real life. Why not the garment industry? Rather than producing a physical sample before we test a garment's look and fit, e-fitting means we can see our garment on the computer first, to detect and correct problems early in the development process, rather than weeks down the line.

As a patternmaker, it's often difficult to understand exactly what needs to be done to correct a pattern until you have seen it sewn and draped on a mannequin or a person. E-fitting is one method to create patterns efficiently and accurately, which ultimately reduces the time spent making samples and getting approvals.

How Can It Help?

Consider this real-life example of a common problem in garment exporting: A buyer sends a vendor a dress pattern along with a sketch of what the garment should look like. The vendor is told that they must use this pattern block, because the fit has been pre-approved for this size. However, the vendor, upon viewing the pattern, suspects that the garment will not drape the way it looks in the sketch. The sketch has lengthwise conical folds down the dress, but the pattern has straight pattern pieces, without any curve in them – straight pattern pieces tend to create scattered folds, not conical folds. What to do?

At this point, the vendor has two options: Sew a sample and let it come back rejected, because the conical folds in the sketch aren't visible in the garment, or send two samples, one using the original pattern and one using the suggested pattern, to show the difference. In either case, everything from pattern development to costing has to wait until the buyer sees both samples, and chooses one of them – a process that could take 1 to 2 weeks.

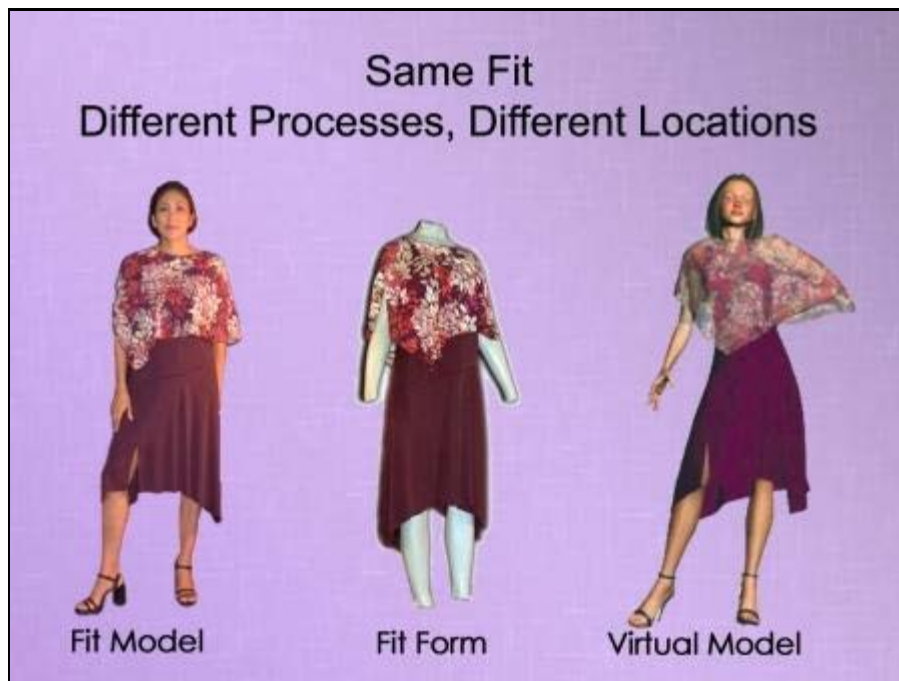


With e-fit Simulator, the vendor doesn't have to guess, or wait for both samples to be created before finding out whether his or her suspicions are correct. The pattern can be imported and draped in the software, and quickly sees which pattern produces the correct result.

Then, a movie and screenshots can be sent along with the digital patterns back to the buyer via email. Within a day or two the decision is made, and a costly pattern error is detected and corrected before a larger, more time-consuming problem occurs.



3D simulation is quickly becoming a fact of life in the apparel industry today. As lead times get shorter and more and more seasons get added to the retail cycle, the industry must adapt and adopt new ways of approving and quality-checking garments quickly, across the global marketplace. E-fitting and e-fit Simulator by TUKA are a way to resolve the “make me a sample”,dilemma.



To learn more about TUKATECH's *e-fit Simulator* product, visit www.tukatech.com.

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