



Whitepaper

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Evolution of amazing: ProSim™ Vital Signs Simulators

Innovation doesn't happen by accident. We've dedicated unprecedented time and resources into the most extensive voice-of-the-customer and technology research ever applied to new product development in biomedical test and measurement sphere. The result: ProSim Vital Signs Patient Simulators.



Our core values put you the customer first in everything we do. ProSim simulators were conceived and designed in partnership with biomedical technicians and clinical engineers all over the globe. Three and a half years, over 200 customer visits throughout the United States, France, Germany, United Kingdom, China, and Japan, and our fleet of the top test-and-

measurement engineers, industrial designers, and human-factors user interface experts in the industry are about to bring you the most innovative device in your toolbox. This is how we did it.

User-centered design methodology

Fluke Biomedical's dedication to voice-of-the-customer business practices means all new-product development centers around user-centered design methodology. We began the development of ProSim simulators with real biomedical technicians, field service and clinical engineers. We observed them. We watched them perform PM's, troubleshooting and repairs. We saw what they tested and how; where they travelled and how they got there. We noted their workarounds and pain points. Then we discussed our observations with them.

We learned about their routines and methodologies, and together we defined true innovation.



Research and development partnerships

With extensive user-defined customer requirements in hand, we partnered with user experts to transform concepts into tangible, innovative plans. Together with real medical device manufacturers and biomedes, we delved deep into patient monitor test requirements and the different workflows used to achieve them. For months we explored exacting sequences of tasks real users like you use to do your



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job, allowing us to design for optimum workflow. We grouped and regrouped many compilations of data into hypothetical, hierarchical structures for in-depth analysis in how new technology could be employed to enhance workflow and create better results for device manufacturers, hospitals, and technicians. It is because of this level of care and detail we were able to identify technological breakthroughs.

Holistic user-experience design

Our unbeatable team of designers invested major resources in defining the best possible patient monitor testing experience for you. What the simulator looks like, how it feels in your hands, what buttons are

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-- Dennis McMahon, BMET and real Fluke Biomedical customer design partner

needed and where they are placed, what the display screens look like and the types of information they show, where and when they show that information and the science behind optimum visual perception and how the human brain processes information and imagery—these are all carefully tested details that served as milestones in the

ProSim design. From paper sketches to interactive drawings to fully-interactive computer simulations and prototyping we employed exhaustive, iterative sequences of design, testing, and challenge-identification. By repeating these processes over and over again, we were able to define the best-possible simulator look/feel and user-interface for you.



“One of the best things about this product is the finger-friendliness,” remarked one of our customer design partners. “Where the connectors are, where the soft-keys are—you made it small enough to be highly compact but big enough to allow for amazing manual dexterity. It’s not too big, it’s not too small—you got it just right.”



Quality-focused engineering

At Fluke Biomedical, we know product quality can be affected by factors other than design. That’s why we set our innovation



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goals beyond product design. Our design and product-engineering teams worked closely with expert production engineers to develop innovative build systems and workflows, along with factory test systems to provide the utmost protection against defects. ProSim Vital Signs Simulators received the benefit of intense scrutiny from supply chain to factory floor to ensure unbeatable quality commitment to our customers.

Validation and quality testing

Quality, dependability, and durability is synonymous with the Fluke brand because unlike competing brands we refuse to compromise on quality. Our instruments are designed to withstand rigorous tests more aggressive than anything they will endure in your environment. Our commitment to excellence means the innovative new ProSim simulators were engineered with care, tested with rigor, and meet global standards for quality and safety. At the same time, we know real user experiences are the only way to truly ensure innovation has hit the mark. That's why we partnered with medical device manufacturers and biomedical technicians around the globe to perform BETA site testing and real-world analysis to ensure we got it right. These are real users performing extensive real-world tests so when you receive your ProSim simulators you will see how amazing these innovative new products are.



Thank you to our global design partners

Many dedicated men and women in the medical-device industry and global BMET community were engaged at every level in the development of ProSim Vital Signs Simulators. It is because of their commitment to the industry, generosity and brainpower that these technological breakthroughs were made possible. With never-before-achieved technology test and measurement tools, these are the most exciting new-product unveils in Fluke Biomedical history. On behalf of the medical-test community, we thank you for your support.