

BAND ON THE RUN

The story behind a modern design classic – and the metric that makes it tick.

I. FROM MEASUREMENT TO MOTIVATION

In late 2009, Nike VP of Digital Sport Stefan Olander and members of his team met to discuss goals for the future and to imagine products and experiences well beyond anyone's expectation. During the meeting it became clear they were all excited about one particular idea: a wristband that tracked daily activity, changing from red to green based on activity.

Inspired by the thick, terry wristbands worn by the tennis greats of the '70s, the team wanted to evolve this iconic band by adding smart panels that would bend like fabric and change color like a chameleon.

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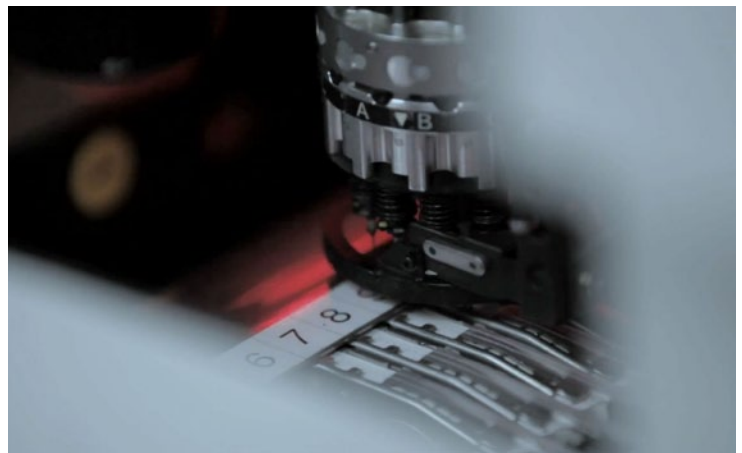
Ricky Engelberg,
Experience Senior Director, Digital Sport

The new product would be for everybody, inspired Nike co-founder Bill Bowerman's famous statement, "If you have a body, you are an athlete." Here was an opportunity to bring those words to life through a device that would motivate people of all athletic abilities.

First, the team graphically rendered the band and created a leather wristband to get a sense of the desired fit and feel. The prototype was starting to embody a scoreboard on your wrist.

The following month, Olander and team presented the idea and prototype to other members of Nike's senior leadership team, who quickly embraced the concept. The technology under the hood would come later – this was more of a 'Can we put a man on the moon?' type of conversation.

Mark Parker, NIKE, Inc. President & CEO, had always been interested in the idea of color as a simple way of motivating people. Early on he expressed the need for the Nike+ FuelBand to be "a mood ring for activity."



Ricky Engelberg, Experience Senior Director, Digital Sport, explained it further, "A pedometer goes in your shoe or your pocket – it's hidden, you forget it. We didn't want this to be forgotten. We wanted it to be an emotional, responsive thing that could fuel motivation."

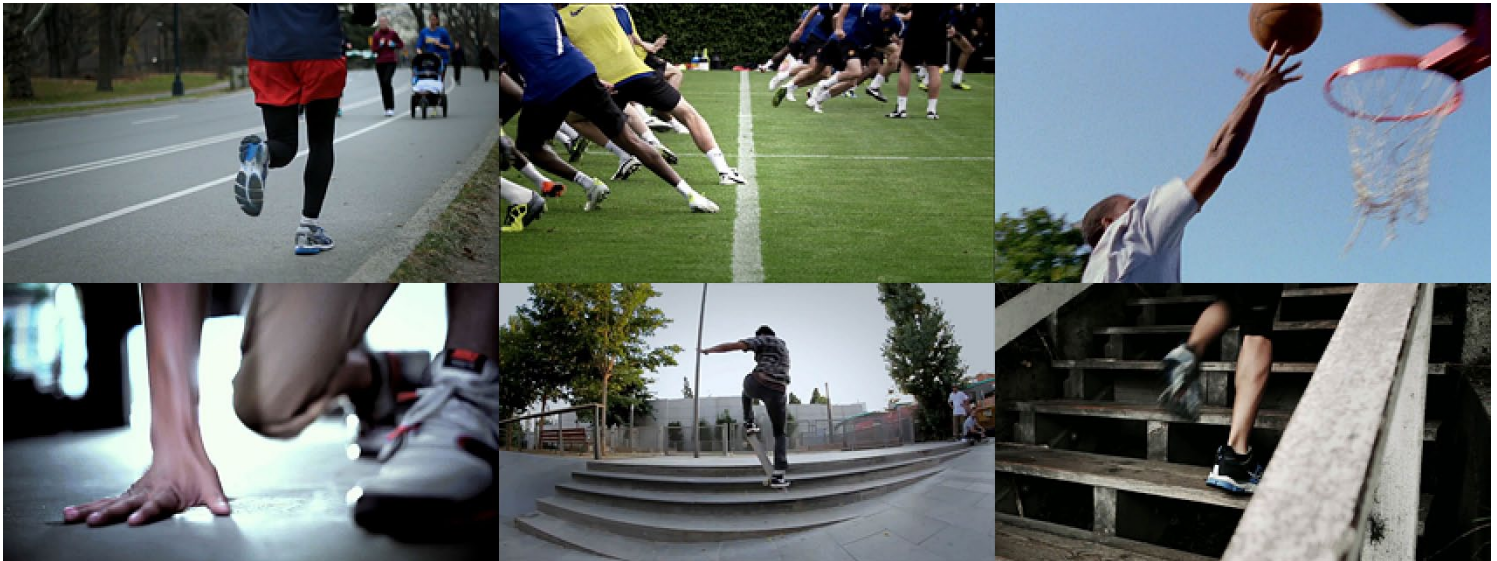
The team was off and running...

II. ESTABLISHING THE METRIC

Digital Sport product designers were tasked with creating something concrete from that initial, futuristic object. A team of engineers was assembled to research, develop and then relentlessly test a new metric that would enable people to track their activity and compare scores with friends using the band.

The idea of a motivational metric for everyday activity was years in the making. Even before the 2006 launch of Nike+ Running, designers and engineers at Nike had talked about creating a system that covered a host of everyday activities. As the Nike+ FuelBand came into focus, it was decided that motivation needed to stem from a tangible, "conversational metric," something that could instantaneously be compared with friends and family.

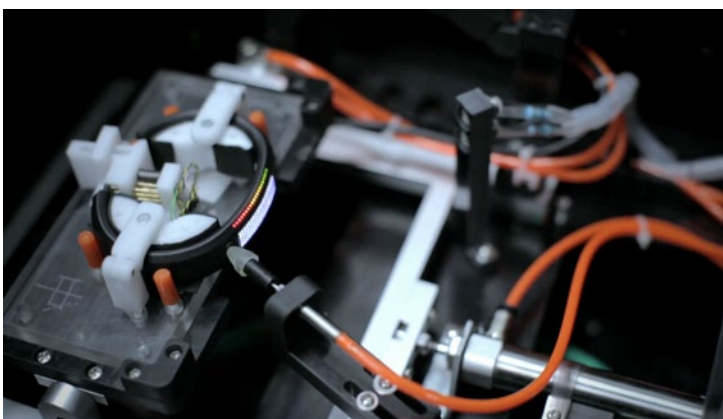
It had to be a motivational metric, too. In cities across the United States and Europe, Kwamina Crankson, Senior Director, Nike+ Category Sports, researched consumers' attitudes towards



activity and motivation. He looked at his own experiences and remembered a time when he was working in London. The miserable daily commute on the London Underground train had been getting him so down that he took up cycling to work instead. Very quickly, he began to feel more in control of his movements and his activity levels. He wanted the Nike+ FuelBand to inspire in the same way. Rather than remind people of what they hadn't done, it would reward them for what they had achieved – helping wearers realize their goals through movement.

“People worried that they’d missed yoga, or they hadn’t gone to the gym one night, but they might work on the sixth floor and there’s no elevator, or they walk to work.”

Through further research, the team noticed how people felt guilty about what they'd missed. “People worried that they'd missed yoga, or they hadn't gone to the gym one night, but they might work on the sixth floor and there's no elevator, or they walk to work.” The team had people write down all the ways they were active over a week: walking the dog, going to the gym, doing the cleaning. Other people drove for a long time just to have a run.



It seemed people didn't grasp their degree of activity unless it was documented.

So what was the magic formula for measuring activity? Steps and maps were great for runners, but they were for precisely tracking a very particular activity. They were no good for tracking sports like tennis or football. Calories are a unit of energy, but tracking them becomes difficult.

The team gathered some of the world's leading fitness experts and academics specializing in the measurement of physical activity to decide the best, most broad-ranging and accurate system for calculating a new metric. Calorie counting alone wasn't enough. They broadened the discussion to energy experts who agreed on the need to anchor NikeFuel in oxygen consumption.

An established metric called Metabolic Equivalent of Task (MET) is a ratio that uses oxygen consumption to define how much energy is spent on a given activity. Engineers combined MET with accelerometers to track the movement of the Nike+ FuelBand wearer. They refined the calculus for NikeFuel until it consistently outperformed the alternatives with its reliability and range.

NikeFuel had moved from radical concept to thoroughly road-tested reality. Unlike steps or distances, here was a metric for all-day activity. NikeFuel provided a way to compare activity levels on an even playing field. The new metric would enable users to directly compare their movement over any given hour, day or week, regardless of body size or fitness level.

Now they just needed to create the hardware that would bring it to life...

III. FORM AND FUNCTION

The challenge was to stay true to the original inspiration, while creating something practical, feasible and desirable. The team designed different 3-D models of how the Nike+ FuelBand might look, each of them channeling the original idea of the wristband with colored lights. Everyone gravitated towards a streamlined, low-key design where the display would be almost hidden, like a secret. And it was decided – if the band was to take up “real estate” on the wrist then it had better tell time.



More work was done around using color as motivation. Red to green is very emotional, but in the middle of the day, how can a user tell how long until they hit green? A linear dimension was needed to show progression from red to green. A grid of white LED (Light Emitting Diode) lights, 100 in all, with 24 colored ones below were developed. The white lights created a grid for the numbers, signs and animations on the band, while the colored lights, naturally display NikeFuel at-a-glance.

“We had to make the invisible visible.”

Stefan Olander, Nike VP of Digital Sport

Finally, the Nike+ FuelBand found its form: sleek, subtle and with a hidden display that could supply data at the touch of a button.

Devising the metric of NikeFuel was about revealing the invisible ways we spend and store energy. Refining the design of the Nike+ FuelBand was about hiding technology underneath a seamless, tactile exterior. As Olander put it, “We had to make the invisible visible.”

IV. COUNTDOWN TO LAUNCH

The final months were spent testing, checking and coding every aspect of the Nike+ FuelBand to maximize its performance. Each colored LED needed to be tweaked for brightness to ensure uniformity to the human eye. With the white lights, the question was, how bright was too bright? A new solution was developed to send messages to the LEDs. The team tirelessly worked on optimizing battery life as well. Two unique curved batteries were developed to provide enough juice for seamless Bluetooth syncing. The clasp was developed as both a USB port and a clip. Shortly before the deadline, the software engineers devised a new way to significantly increase the battery life.

Finally, when all the smart innards of the Nike+ FuelBand were settled and optimized, production began. For each Nike+ FuelBand, all the innovations were encased in a soft, hypoallergenic polymer that is heated to melting point – ultimately enveloping the electronics.

“It needed to be seamless and work for everybody.”

Ricky Engelberg,
Experience Senior Director, Digital Sport

Engelberg recalled, “It needed to be seamless and work for everybody. It had to work with a mobile device or a computer. It had to sync effortlessly and connect wirelessly. It had to have enough charge to last a few days. And it had to do all this in a form as seamless and iconic as an Air Max 1 or a Nike LunarGlide+.”

All so the rest of us could treat life as a sport in a way never before imagined.