

to the shirt and the company has adapted this by laser cutting and bonding the fabric numbers on. "We wanted to keep a real sense of purity about it [the shirt] and we stripped it back of all the clutter," concludes Mr Blanch. It is this simplicity and attention to detail that Umbro believes gives its shirts the edge.

Power and unity

Germany-based Puma relished the fact that the World Cup was in South Africa this year having enjoyed a special relationship with Africa for many years. For some time it has been a keen supporter of the Cotton Made in Africa initiative, which trains African farmers to produce cotton without artificial irrigation and helps to make cotton farming more efficient.

During the build up to the World Cup the company launched a number of Africa-inspired collections for fans, many of which featured the Cotton Made in Africa label. "We are proud that our African-themed collections have been created with African involvement which makes them much more authentic and more desirable," said chairman and CEO, Jochen Zeitz.

The company, which is the official kit supplier of 12 of the continent's national football teams and seven teams that got through to the finals stage, also hosted an Africa Unity Experience ahead of the tournament. During the event, finalists Cameroon, the Ivory Coast and Ghana participated in a series of high-impact 'unity' events to generate fan support ahead of the World Cup. The highlight was an exhibition match when players from the three teams played at the Stade Michel Hidalgo in Saint-Gratien, France wearing a specially designed Africa Unity kit.

"We're excited to host the Africa Unity Experience; Puma's official send-off to the African teams who are World Cup bound," said Mr Zeitz prior to the event. "It is through events like these that Puma's positioning as a sportlifestyle brand really comes to life. It represents the perfect marriage of sport and music and culture, bringing the unity message into focus."

In addition to bringing players and fans together, the sportswear brand also wanted to provide apparel, footwear and equipment that would help the players perform at the highest level on the pitch. Its PowerCat range was designed to do just this.

Worn by the title defenders Italy, who disappointingly crashed out of the tournament sooner than expected, the jerseys were made using 3D Motion Analysis, a scientific technique that captures and quantifies human movement. This movement data is incorporated into the design of the jersey to ensure each player uses minimal force and energy when moving their upper bodies. The jersey also uses an engineered mesh, or 'battle skin' to enhance breathability, giving players greater comfort and freedom of movement.

The Powercat 1.10 Boot features the company's 3D Power Shooting Technology. The Springtech foam in the gills puts extra power behind the ball as it catapults off the shoe. Because the boot does not absorb the typical amount of energy on ball impact, it allows players to release more power when they shoot. The kicking area is made of soft, thin leather and a synthetic microfibre around the quarter area keeps the boot lightweight and easy to perform in. The bladed studs provide smooth ground penetration and pressure distribution as well as excellent traction and manoeuvrability.

Added to this, the PowerCat 1.10 Glove uses its Flexible



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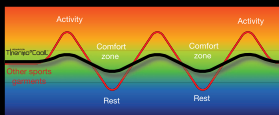
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TechFit Powerweb technology was a feature in the adidas shirts some players, including France's André-Pierre Gignac, wore.



Finger Protection System to allow goalkeepers to adjust the individual protection levels for each finger with a spine they can adjust. The Power Wrist has two-directional silicone straps for added support and stability. The backhand features special new foam which compresses more slowly than it expands, giving keepers more power when punching away incoming shots on goal.

Laser-like precision

At adidas, innovation for the FIFA World Cup is a constant focus. One niche the brand has made for itself is as the regular supplier of the official World Cup ball, which changes with each tournament, and which in 2010 gloried in the name Jabulani, 'to celebrate' in the isiZulu language. The design incorporates 11 different colours, representing the number of players in a football team, the 11 official languages of host nation, South Africa, and the 11 tribes that make the country one of the most diverse on the African continent. In terms of new technology, the football includes a 'grip-n-groove' profile to stabilise flight and good grip in all conditions. The Jabulani is made up of eight thermally bonded panels, spherically moulded to make sure the ball retains its roundness for longer. The materials used in the panels are ethylene vinyl acetate and polyurethane.

However, particularly in the build-up to the event in South Africa, the ball attracted

substantial criticism.

In a statement defending the ball, adidas commented: "The Jabulani meets or exceeds all FIFA approved standards, and tests from the University of Loughborough (where much of the development work took place) scientifically prove its unprecedented stable flight and laser-like precision."

Dr Andy Harland from the Sports Technology Institute at Loughborough University became a household name because of the number of times he was called upon to assuage fears that ball was too light and moved too much in the air; apart from goalkeepers, free-kick specialists were also, for the most part, disappointed by their efforts to score from dangerous-looking dead-ball situations and put the blame on the Jabulani.

The Loughborough academic explains: "So many goalkeepers are reacting to the fact that this is a different ball; they're experiencing differences in training, and that's entirely expected at altitude particularly [five of the nine host cities for the 2010 FIFA World Cup were more than 1,000 metres above sea level] because the ball is travelling faster through the air. So, perhaps the ball is arriving at them two or three diameters quicker than they would have expected it. Particularly when the players kick the ball with no spin, you get the fact that the ball is a sphere coming into play. The fact that this [the Jabulani] is a sphere means the ball will experience instabilities in flight; every ball does."

Fantastic elastic

World Cup replica shirts worn by fans have never sold faster than at the 2010 FIFA World Cup. More than 6.5 million jerseys had been sold by adidas globally before the end of June, with the tournament still in full flow. On the field, technology has played its part as well, according to the German sports brand, with some players choosing to wear national team jerseys that include TechFit Powerweb webbed elastic, which adidas claims is scientifically proven to enhance the performance of a player at any level by increasing blood flow and oxygen to important muscles.

Senior product manager for performance apparel at the adidas innovation team, Brady Anderson, says Powerweb can give footballers more energy, more power and more control. "The energy comes from enhanced blood flow, so you

The Jabulani, designed to retain its roundness for longer.



A World Cup role for Taiwan

Holding 167th position in the FIFA world rankings, few people linked to Taiwanese football expected the country to reach the World Cup finals in South Africa, but Taiwan did make an important contribution to the event.

Wang Chen-tai, head of news at the Taiwanese representative office to the European Union in Brussels, said Taiwanese textile companies had supplied recycled polyester for the shirts that some of the top teams wore in South Africa. Mr Wang said the choice of Taiwanese technology for the shirts showed that his country is a leader, if not on the field, then at least in the performance apparel the top stars wear and in its commitment to reducing carbon emissions and protecting the environment.

He said nine teams at the World Cup were wearing Taiwanese-enhanced shirts and that 13 million recycled polyethylene terephthalate (PET) bottles had gone into making the fabric for the players' shirts and for the high numbers of replica kits that fans around the world will buy; one shirt requires eight recycled PET bottles on average, he said.

The teams involved were Brazil, the Netherlands, Portugal, the United States, South Korea, Australia, New Zealand, Serbia and Slovenia, all of whom have Nike as their kit supplier. 

have more oxygen delivered to your muscles," he explains. "The control comes from compression on key muscle groups. What you do is decrease muscle vibration and allow the energy of the body to focus on movement. The power comes from the TechFit thermoplastic polyurethane Powerweb bands. When these bands stretch, they load energy that can be returned to the player when he's running and jumping."

Adidas tested the technology in partnership with the Human Performance Laboratory at the University of Calgary in Canada. The overall aim was to see how much faster an athlete would be able to run wearing TechFit, so the team at Calgary carried out "flying sprint" trials over distances of 30 metres (which would constitute a long run in the context of a football match). Sprint time improved by 1.1%, Brady Anderson says, jump height by 4%, and endurance, measured as efficiency of running, by 0.8%. Compression shorts with the same technology can improve leg power output by 5.3%, he continues.

The main bands, clearly visible on shirts such as those worn by the French team (to disappointing effect during the competition, it must be admitted), come down the front of the shirt outlining the pectoral muscles, and continue under the arm and round the back to form a cross, supporting muscles such as the deltoid, rhomboid and trapezius.

Only 32 countries made it to the Finals in South Africa, but 204 of FIFA's 208 registered national teams took part in the qualifying competition, which began in 2007. Preparations to make South Africa a successful host began before that, shortly after FIFA announced its decision in May 2004 to bring the competition to Africa for the first time. It's clear from this article that the world's top sports brands and their partners contribute substantially to the huge amount of work that goes into making the tournament a success. The countdown to the 2014 World Cup in Brazil has already begun. 



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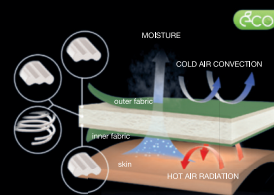
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