

## ZEBRA TEAMS WITH JABIL TO SPEED DEVELOPMENT AND DELIVERY OF REVOLUTIONARY, IoT-ENABLED SPORTS TRACKING SOLUTION

### Case Study



<b>Company</b>	Zebra Technologies
<b>Industry</b>	Technology
<b>Country</b>	USA
<b>Employees</b>	7,000
<b>Website</b>	<a href="http://www.zebra.com">www.zebra.com</a>



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**Jill Stelfox,**  
**Vice President and General Manager,**  
**Location Solutions, Zebra**

### CHALLENGES:

- Finalizing product design and ramping production rapidly to meet a two-month delivery schedule
- Special RFID expertise and global supply chain capabilities required to accommodate cutting-edge IoT solution

### SOLUTIONS:

- Jabil's Silicon Valley manufacturing facility provided sophisticated manufacturing capabilities with close proximity to Zebra's operational team
- Jabil's global supply chain capabilities and specialized RFID and engineering prowess would prove vital to scaling production while assuring product quality and reliability

### WHY JABIL?

- Jabil leveraged a long-standing relationship with other parts of Zebra to apply best practices and processes needed to meet extremely tight timeline
- Jabil's massive buying power and supply chain expertise offered sourcing alternatives and economies of scale
- Jabil's ability to assemble a team with complementary skills and experience was key to creative changes in product design
- Proximity to Jabil's Blue Sky Center will accelerate next-gen IoT product development

Zebra Technologies has a rich heritage of innovation, so it's no surprise the company is transforming sports using patented RFID and IoT-enabled technologies.

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**Alisa Busche,  
Director of Supply  
Chain for the  
Location Solutions  
Group at Zebra**

In 2013, Zebra introduced the industry's first, real-time player tracking system that captures professional football game data and converts it into real-time, meaningful statistics with ground-breaking speed and precision.

The result: unprecedented insight into player performance designed to improve how fans, coaches, teams and networks watch, coach, play and analyze the game. With the creation of Zebra Sports Solutions, the publicly held company best known for its leadership in enterprise asset intelligence has quickly gained recognition as a sports industry game changer.

As the official on-field player tracking provider for the NFL, Zebra is driving a highly unique next-generation statistics initiative that will have lasting impact on game-day operations. According to Jill Stelfox, Vice President and General Manager, Location Solutions, Zebra, the goal is to collect information once and re-use it over and over in ways not possible previously. "We're changing the game by capturing and delivering data insights you could never really see before," she explains. "Zebra is opening a world of new possibilities for players, coaches and fans with a quality, reliable solution that captures every moment with every player during every game, every time."

### **Shouldering Major Manufacturing Demands on a Tight Turnaround**

To deliver this unprecedented level of insight, Zebra was tasked with producing thousands of nickel-sized sensor tags that would be placed in the shoulder pads of every football player in the league. These sensors then would emit unique radio frequencies 25 times per second, which would be collected by receivers mounted throughout football stadiums across the nation. Once sensors pinpoint a player's position, tracking, speed, acceleration and distance traveled, special software algorithms would be applied, aggregated and analyzed.

During game day, data experts at Zebra's command center in San Jose would be on hand to assure quality, accuracy and consistency of all information gathered. Once the league embraced the novel idea, Zebra became extremely focused on finding a world-class partner to help them scale rapidly from prototype to production.

The company had to quickly finalize product design and move immediately into production to deliver the tags before the start of the 2014 football pre-season. "In the sports world, games are scheduled well in advance and those schedules don't move," says Alisa Busche, Director of Supply Chain for the Location Solutions Group at Zebra. "We had to deliver a reliable, quality tag in two months, which is shorter than the typical timeline to scale a new product from prototype to full production."

Zebra initiated a search to find a top-tier manufacturer that could meet its quick turnaround demands without sacrificing product quality or reliability. Ultimately, proximity to its San Jose-based operational team was of utmost importance.

From the field of contenders, Jabil stood out in part because other parts of Zebra's organization had enjoyed a long-standing relationship. "When Jabil says they're going to do something, they do it," says Stelfox. "That's a big thing to rely on when you're operating under such a tight deadline."

Another equally compelling factor was the opportunity to leverage Jabil's RFID expertise and global supply chain capabilities. In particular, the team knew they could benefit from Jabil's massive buying power to develop a strong supply chain. "Having global reach to get key components in the manufacturing process is huge," Stelfox adds. "We can't have a situation where a component is no longer available. The fact that Jabil can get all the best quality components – at the best price – played a big part in the decision making." Jabil's RFID experience also weighed heavily as Zebra's tags are technologically advanced, requiring the highest levels of RFID engineering.

"We were quite impressed with Jabil's San Jose manufacturing plant," notes Busche. "They had a lot of the same resources we use in China, which meant we could share people, processes and best practices." Jabil's depth and breadth of forward-looking technologies, especially in the areas of advanced materials and miniaturization, helped clinch the deal.

## Scoring a Major Production Win

Zebra quickly on-boarded the local team, taking advantage of Jabil's RFID know-how and design-to-manufacturing assistance to quickly identify any issues that could impact production. As a result, several modifications were made to routings on the tag circuit boards to increase efficiency.

As the production lines kicked into high gear, Zebra and Jabil worked to address any issues so the production lines could keep moving. The teams held daily meetings and devised creative changes, based on availability of materials and delivery timeframes. They worked around the clock to hit the two-month window and continued to ship batches of thousands of tags until completing the initial order.

"We worked nights and weekends to meet our initial delivery timetable," Busche adds. "It took a real commitment from both sides, which is how we define true partnership. Both companies had the same goal and we pulled together to make it happen."

To ensure product quality and reliability, Jabil relocated an experienced program manager from China to its Silicon Valley plant. Having overseen Zebra production lines in China, the program manager worked closely with Zebra's business manager and continuously went out of his way to improve the process. "It took a lot of heroics – the middle of the night kind – to make something like this happen," says Stelfox. "Jabil shared our vision and was willing to relocate people and assemble the right team to help us get tags on the field before the start of the season."

## Elevating the Game for Players and Fans

Following initial delivery in 2014, Zebra and Jabil regrouped to make additional improvements and refinements to the tag technology for expanded use during the 2015 football season. Again, the production delivery schedule required very tight turnaround. Two seasons after delivering its first tags, Zebra now is capturing every football game worldwide, while providing fans with a range of new insights that will change how they relate to and cheer on their favorite players and teams.

"Jabil is helping us determine how much safety stock we need to meet current demand while enabling us to build different products at different points and places," Busche says. "This additional planning and ability to grow quickly from small production to large volumes will be key to meeting the needs of our customers."

In an environment characterized by constant change, Zebra also benefits from the stability and continuity of the Jabil team as the same core group lends expertise from prototype design to final production stage. Moreover, Jabil's team has assimilated complementary skills and experiences from working in other parts of the company's global organization. "Jabil does an amazing job of growing talent," Busche adds. "I've heard numerous stories of folks, like our program manager, who have moved from different facilities and taken on multiple roles and responsibilities to continue their career path, help the company grow and offer customers superb service."

### About Jabil

*Jabil is an electronic product solutions company providing comprehensive electronics design, production and product management services to global electronics and technology companies. Offering complete product supply chain management from facilities in 27 countries, Jabil provides comprehensive, individualized-focused solutions to customers in a broad range of industries. Jabil common stock is traded on the New York Stock Exchange under the symbol, "JBL". Further information is available on Jabil's website: [jabil.com](http://jabil.com).*

## Taking Real-Time Location Tracking to the Next Level

While Zebra's real-time player tracking system is revolutionizing football, the company is well positioned to make an indelible mark on other sports, as well as a host of industrial manufacturing and safety applications. As part of its cutting-edge approach, Zebra is working with Jabil to develop ever-smaller, ever-lighter tags. "There will be evermore Internet of Things tags and sensor solutions coming, and it gives us peace of mind knowing we can try something new and keep moving on our IoT journey together," Stelfox adds.

Part of that journey will be to expand the use of real-time location tracking with other sports, which brings a new set of challenges as sensors must be embedded in players' uniforms. Jabil provides additional value in this area through its recent acquisition of Clothing+, a leader in textile-integrated electronics. "The Clothing+ acquisition speaks to our best-of-breed partnership as making that investment shows a real commitment to the IoT space, which is another reason we chose Jabil as our partner," says Stelfox.

Thanks to Jabil, Zebra can embrace increasingly creative solutions taking advantage of advancements in materials, antennas, battery life and other forward-looking technologies. Many of those innovations are on display at Jabil's Blue Sky Innovation Center in San Jose, which gives Zebra ready access to the latest technologies and manufacturing processes. "Jabil's Blue Sky Center allows us to see the most cutting-edge technology and the breadth and depth of what the company has to offer," Stelfox adds. "We can even bring our customers there to show them the quality we bring end-to-end and our commitment to this space."

One of the keys to sustaining a successful long-term relationship is a shared vision. "Our cultures are actually quite similar in that both Zebra and Jabil believe in innovation and engineering strength," concludes Stelfox. "There is a person-to-person commitment at Jabil that is something to be proud of, and it makes a huge difference in what we're trying to do."