KANBAN AT BLIZZARD SPORT
Responding Faster in an Uncertain Market

It didn't snow much during that particular winter. The average temperatures were the seventh highest ever recorded in the northern hemisphere. "The winter of '06–'07 nearly killed the ski industry in Austria," recalls Eric-Jan Kaak, Chief Information Officer at Blizzard Sport, an Austrian ski maker. At the end of that season, the company had 30% of their production left in stock at the factory. Blizzard Sport had been making skis in Mittersill, in the Salzburger Land region of Austria, for 60 years. It had grown to be the largest employer in the Salzach valley. Many people living in the Pinzgau region of the Alps relied directly or indirectly on the success of Blizzard Sport for their livelihood. In addition, Blizzard is a brand synonymous with Austrian sporting achievement and a great source of pride for the Austrian nation—many Austrian alpine skiers have won Olympic and World Championship medals on Blizzard skis. As the last snow of that '06–'07 season melted, Blizzard's new owners, Tecnica Group, from Italy, had much to consider regarding the future of the factory in Mittersill and the future of the Blizzard brand as a renowned innovator in Alpine skiing technology.

Now, six years later, workers at the Blizzard Sport factory feel a lot more secure than they did then. A fundamental shift in the manufacturing process and in the internal organization of the company has made it resilient to the uncertainty of the winter season as well as to the changing trends in such a competitive industry. Blizzard has optimized the way it produces skis, becoming the first Lean ski manufacturer in the world. For the past few years, Blizzard Sport has continued to set trends in the market and recently won two ISPO[1] awards for innovation. Lean thinking has spread throughout the company, and Eric-Jan has driven a Kanban Method adoption in the IT department. The implementation has not only improved performance of the IT team, which has direct influence on the quality of all of the company's IT systems and the flow of information between them, it has also brought Eric-Jan the 2013 CIO Award for Best IT Manager in Austria. This is the story of how a Lean transformation and the Kanban Method strengthened Blizzard Sport and freed it from depending on the increasingly fickle winter weather in the northern hemisphere.

Background

Skiing carries particular importance and zeal in Austria. It is the sport in which Austria has truly gifted racers who have won many medals, a genuine source of national pride. Skiing up in the mountains is a passionate way for Austrians to spend their leisure time. "Above 1,000 meters here in Austria people are all equal. Societal differentiation and formality in the communication that might exist in the world below are left at the entrance of the cable car," Eric Jan explains. Even though the elevation at the Blizzard Sport factory is 210 meters short of that virtual border, the company attempts to have this sort of equality.

The Blizzard Sport traditional ski factory has been making skis in Mittersill since 1945. Throughout the years it has employed people from the entire Pinzgau region, situated in the Western part of Austria. It is the largest employer in the region, currently employing 200 people, and it works with various local suppliers, thus ensuring the livelihoods of an additional 50 to 60 people from the valley. Blizzard Sport was acquired by the Italian conglomerate Tecnica Group in 2006, which includes the Nordica ski brand in its portfolio of companies. After the acquisition, Nordica's ski manufacturing was moved to the Blizzard factory. Nowadays, design and development of all Blizzard and Nordica

ski models, as well as the manufacturing of all the higher-end models with wood cores, is done in the Mittersill factory. An additional factory was built in Ukraine, which employs another 200 people, and where the skis at the lower end of their range of models are produced. Counting all models in all colors and all sizes, the two factories combined make a variety of more than 800 different kinds of skis in various quantities.

The traditional cycle of ski production begins a year before the skis are on the market. Skis for the 2006–2007 winter season would have begun production in November of 2005. The process to determine how

much to produce was a combination of forecasting and taking actual orders from distributors and retailers of skis. Until early this century, orders placed with Blizzard Sport were made in late December or January of the previous season as the dealers saw how many skis were selling that winter. This meant that Blizzard was blindly producing skis for two to three months without knowing the actual demand from their distribution channels. But as the winters—and the behavior of customers—became more unpredictable, the orders began to come even later in the winter season, as retailers wanted to see the number of unsold skis and adapt their orders accordingly. But they still required the new models by October, when people begin to gear up for the upcoming season. That forced manufacturers to make more skis by forecast and fewer by actual orders as the window of blind forecasting before hard orders appeared grew longer and longer. With a throughput of 300,000 pairs, Blizzard began to carry higher risks of overproduction. The impact of this increased risk was clear by the end of the winter season of '06–'07.

The Turnaround

With the recent acquisition by Tecnica, orders were now placed through the group headquarters in Italy. This increased processing time exposed Blizzard to yet more risk. With less and less time to respond to market demand and still deliver skis for the new season by October of each year, the production process would have to improve. "When I joined the company in 2007, the lead time from order to delivery to the client for a standard batch of skis (150 pairs) was between twelve and fourteen weeks," Eric-Jan says. This was the thirty-five-year-old legacy of making skis in the traditional, craftsman-like style, and this habit stood in the way of change. Manufacturing skis had always been a craft for the Austrians—much of it is manual work. The details of the design and

construction, together with the edges of a ski, determine a key part of the experience of skiing on the slopes of the Austrian Alps. But overproduction (tens of thousands of pairs of skis were left in stock at the end of the 2007 season) threatened the future of the factory and the livelihoods of hundreds of people in the Pinzgau region.

Tecnica Group's first goal was to reduce costs at the Blizzard factory. This required greater information visibility and support for process standardization. Eric-Jan and the IT team's role in these changes was to introduce a new Enterprise Resource Planning (ERP) system within Blizzard. That system was meant to organize in one place all of the information related to the orders, manufacturing, and shipment of skis. The real-time view and facilitation of all the business processes would help to spot and then cut extra costs. As time passed, though, this type of optimization reached a limit. "We realized very quickly that a sole focus on removing costs was not giving added value to the business, let alone satisfaction and motivation to the ski makers. Yes, we were making a pair of skis cheaper. However, we were not improving the throughput and our production, which was what we really needed to achieve in order to produce larger volumes after receiving orders at the end of April [avoiding speculative over-production earlier in the season]," Eric-Jan says. The focus and motivation for improvements had to change.

A Lean Ski Maker

Looking for ways to refocus, Tecnica Group found inspiration in an unlikely place—the automobile industry. Consultants from Porsche Consulting, a subsidiary of the automobile manufacturer, met with the company in late 2010. They suggested changes in manufacturing that would make the production process leaner and more efficient. Derived from Toyota's car-producing practices, the consultants advocated for the Lean manu-

facturing method that has been popular for making cars over the last 20 years. It helped to locate and eliminate wasteful activities in the flow of the entire process. Many aspects of manufacturing are sufficiently similar that Lean concepts can be easily transferred to different types of manufacturing. The sources of waste, seen as activities that do not directly create value for the clients, were much more widespread than just incurring extra costs. Waste could be an unnecessary amount of walking in the factory, overstocking the warehouse with raw materials, or the time consumed to find something in the clutter of over-produced skis. The optimization benefits could be profound, but everyone had to accept that the process of making skis that they had been used to all their lives was going to change.

"Tecnica Group found inspiration in an unlikely place—the automobile industry."

Naturally, there was resistance to such shifts of mindset. The pride in making skis was standing in the way of adapting to change that came from a source in a completely different industry. But there was a cultural aspect to Lean manufacturing that potentially could ease the resistance. Evolutionary change and continuous improvement, core principles behind Lean manufacturing—defining it as a continuous journey in a particular context rather than as a one-off change formula—advocated for contributions from the entire team. Under a Lean transformation, change was not imposed upon the production workers (the ski makers in the factory); instead, they were given initial guidance, then empowered to evolve their processes and working techniques as they saw fit. Learning and practicing the craft of ski making would remain, but autonomy was given to change the craft and adapt
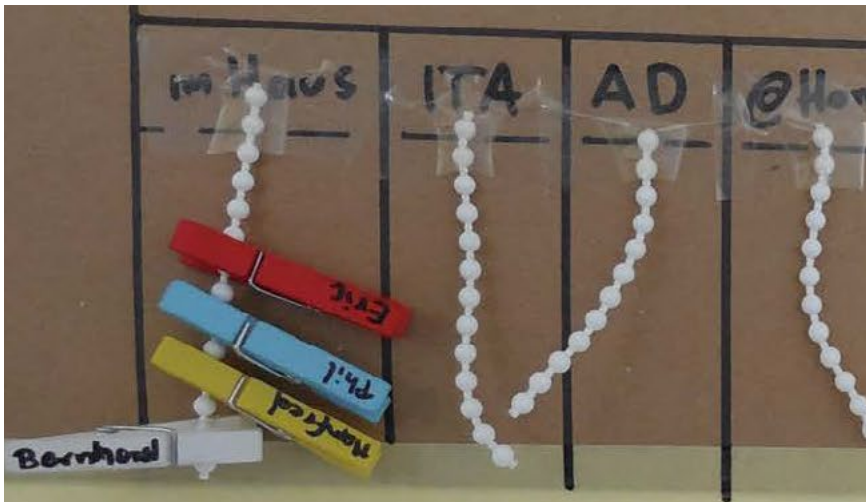
Each team member has a clothespin that indicates if the person is on location in the Blizzard factory, in the headquarters in Italy, on a business trip, or working from home.

"Overproduction, high inventory, and long lead times were . . . significantly reduced due to the reorganization of the floor and the introduction of signal cards . . . "

it for the new world that demanded faster, more efficient production. It was a change of culture that the employees would have to learn to embrace.

The first analysis from Porsche Consulting recognized that the processes that relied on forecasts of demand were resulting in overproduction, high inventory, and long lead times. Most areas, such as the overstocked, cramped warehouse, exhibited much room for improvement. Roughly cut blocks of wood, steel edges, sheets of polyethylene for the bases, and rolls of fiberglass or aluminum for a whole season's production were piled everywhere, with no system for organizing them. "It was a huge expense to have so many raw materials stored months in advance of when they were needed. In addition, people lost a lot of time trying to find what they needed in the clutter. But without visible production planning and execution, it [was] perceived that having [all the raw materials on hand]

from the start [of the production season] was the easiest way to handle production," Eric-Jan says. Pressure had been mounting to build a new, larger warehouse to store more and more raw material. It was an expense that Blizzard could ill afford. Reorganizing the warehouse would relieve the pressure for a new building. It was these sorts of wastes that the company had to find and eliminate, and reconfigure their method of manufacturing. To speed production, Blizzard would create a Lean flow system for manufacturing that spanned the factory from raw-material ordering to finished goods delivery to client.

Lean manufacturing principles were implemented in the beginning of 2011. After the initial six weeks, results were measured. Overproduction, high inventory, and long lead times were measured and appeared significantly reduced due to the reorganization of the floor and the introduction of signal cards[2] between the various part-producing workstations.

The cards indicated when the next workstation was available to take on more work items. Local cycle-times at each station were measured and slow processes were recognized as bottlenecks. The improvements were visible to everyone; craftsmanship and pride-of-workmanship in making skis remained, while objections to the new Lean approach diminished.

The Troubles in IT

While the shop floor processes were improving, Eric-Jan was experiencing issues with his own team. "We have always had a large demand of requests for the IT team. [They] used to come mostly in the form of queries and reports. After the ERP system was implemented, the nature of the requests changed and there were additional process related tasks," Eric-Jan says. The small IT team, consisting of five people, was taking care of the demand from both the local and the Ukrainian factory. Requests came from many departments, over the phone and through a helpdesk e-mail account. "One hundred and thirty people work on computers in Blizzard Sport, and each one of them is a potential internal client," Eric-Jan explains.

The team—two developers, two more who specialize in operations, and one who does both development and operations work—handled all requests that came in. They didn't have a system for prioritization, but they never said "no" to anyone. Instead, they made a promise to everyone to deliver. In order to manage and keep everyone satisfied, the IT team worked on everything simultaneously. As each new task came in, multitasking only increased. The more requests they were working on, the more delays accumulated and the more restless internal clients became. "No, I have not forgotten you. Yes, I am almost done with your task," they heard, but they still didn't receive a finished task. Most times the issues of

2. Signal cards are literally "kanban" in Japanese. These are at the core of the Toyota Production System, the foundation of Lean manufacturing. Hence, Blizzard had introduced kanban systems into ski manufacturing in 2010 before adopting a virtual kanban system in IT.

delays reached Eric-Jan and required his time and attention. "Complaints were coming from all departments who saw IT as a big black hole, where there was no prioritization of work and no communication," Eric-Jan recalls. A natural solution might have been to hire more people, but in conditions of an economic downturn, that was not a viable option. Eric-Jan looked elsewhere.

The production of skis had improved through the introduction of a transparent, Lean system that aimed to eliminate waste and improve efficiency with the available resources. "I was convinced this could somehow be adapted in IT as well," Eric-Jan says. He wanted to have visibility of the work that was in progress. He wanted to make sure that everyone would be able to make decisions about what to work on and to create flow without the pressure from internal clients and their expectations. After a quick online search in the spring of 2011, he came across the Kanban Method for IT. "I read David J. Anderson's book over a sunny Easter holiday, and everything fell right into place," Eric-Jan says. Motivated by the wish to make internal clients happy and the IT systems more efficient and supportive of production, he presented his idea to implement the Kanban Method with the IT team. In his view, the transparency and focus that were part of a kanban system could address both the communication and prioritization issues quickly and without disruptions. "One of the things that really annoyed the internal clients was that when their task was done, nobody from IT actually told them. The people on the team were just too busy to give feedback, but to an internal client it might have seemed as if they were doing it on purpose," Eric-Jan describes. Having witnessed the improvements on the factory floor, and armed with the assurance that their way of working would not be changed, but rather just visualized, the IT team agreed.

Skiing on a Kanban Board

The team put up a simple physical Kanban board. It had only three columns: Next in Line, Build, and Test. All five team members had to write down on a post-it note every task each of them was working on. "As we started, we had at least 50 cards as backlog on the wall, and I am sure another 50 that didn't show up," Eric-Jan says, and continues: "The team was stunned when they saw the board. It was the first time they realized how much they had committed to." The

The IT department's Kanban board, the structure of which has not changed much since it was first created. The top row is reserved for tasks related to projects; below that is a row for maintenance tasks, which usually take no longer than a day; the third is a parking lot for tickets that need feedback from an internal source; the fourth row is a parking lot for tickets awaiting external feedback.

Backlog for tickets related to planned projects.
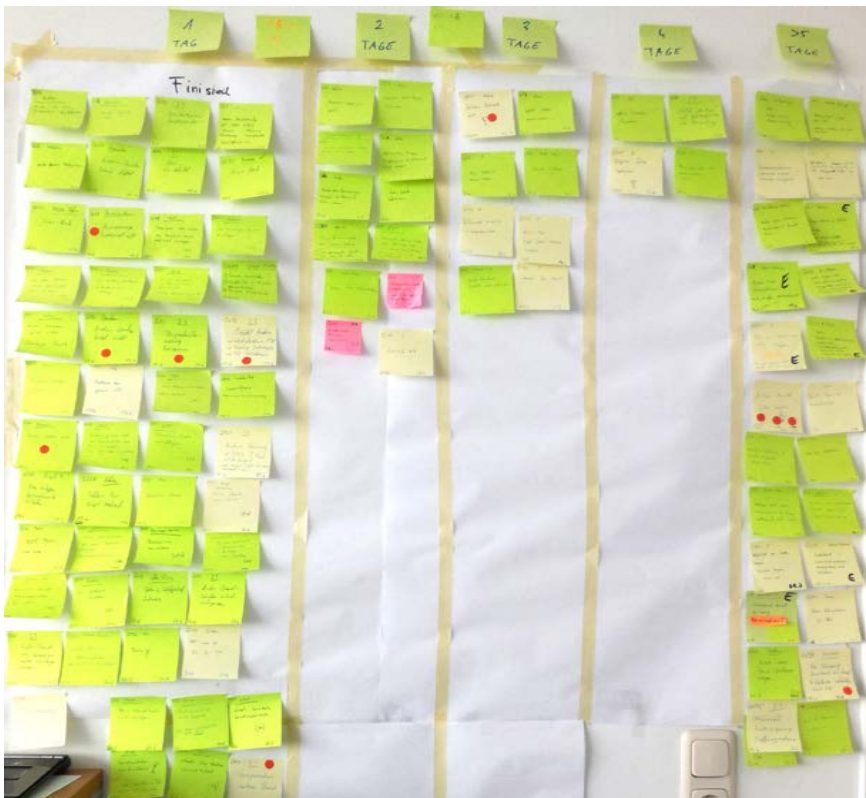
This board serves as a histogram of work that has gone through IT; it indicates how long each ticket was in process.

team decided that they should clear all of these open tasks before starting anything new. It took them a week to complete all of the open requests.

In the fashion of the Kanban Method, each new task was written on a card and put on the board where everyone could see it, together with all of the other requests the team had received. Because everyone could see the amount of work visually, nobody wanted to overcommit beyond capacity, otherwise the delays would continue. Performance was quicker and quality much better when each person focused on a single task and finished it. The team adapted another core principal of Kanban and introduced work-in-progress limits for each column of the board. Multitasking was a waste that harmed both the team and the client.

"We started to have this acknowledgment in the house that if a task was on a ticket, there was a 100% assurance it would be taken care of completely," Eric-Jan explains. Two types of post-it notes were introduced—green-colored helpdesk and maintenance issues and yellow-colored project-based tasks such as placing new ski models in the ERP system. The demand itself continued to come during a chat at the coffee machine as well as over phone and e-mail, but a new approach developed. Internal clients started writing tasks on post-its and gluing them into the backlog themselves: It was a quicker way to feed the backlog, which avoided the waste for someone from IT to write it and place the task on the board. If an internal client wanted to see the progress of his card, all he had to do was go to the Kanban board that was hanging in the IT room. "Sometimes an internal client would come while he was

waiting for the coffee machine to make an espresso and by the time he saw what he needed to know, the coffee would be just done," Eric-Jan says.

The team had set a rule to work on tasks on a first-in-first-out principle. But there was still the old habit of people wanting a more expedited response to their tasks. "I remember this instance when three teams within production brought their project-based tasks at the same time. Since there are just two developers, we had to prioritize. I left the developers to do their work and invited the task owners to the board. We all knew what was most important for the flow of manufacturing, so after a short discussion we prioritized the three tasks. The relief for the developers to focus on work rather than wasting time to discuss what to work on was refreshing," Eric-Jan explained.

As time went on, Eric-Jan received fewer complaints. He wasted less time dampening down conflict situations. Peeks at the Kanban board and quick discussions in front of it had displaced those. He had more time to look for improvements. "One of the biggest sources of delays has always been related to the demand that requires work from an external software provider, which usually happens for systems like the ERP. The expected delivery for those requests was unpredictable and I had a lot of explaining to do when big delays accumulated. Even I was surprised at how big of a bottleneck they were once all tickets were on the board," Eric-Jan says. He decided to designate a special "parking lot" on the board for the tickets that were on hold because of external partners; a capital letter E was also written on such tickets for additional visibility. With this in place, it has become easier for Eric-Jan to hold the external partners accountable for their inconsistent behavior.

Eventually, another board was added to Blizzard's IT room. Unlike the Kanban board, which has upcoming and ongoing work items, this one organizes the already-completed tickets from the past month by their lead times. Split in five columns, depending on whether the task took one, two, three, four, or five+ days to complete, the board is a histogram of the team's capabilities and throughput. "If the internal customer gave a request on Thursday and we delivered on Monday, we still count the lead time as four days. It doesn't matter that there was a weekend in between. The client still waited four days," Eric-Jan explains. With that board in place, expectations from the IT team are set even more clearly. At the end of each month, that board has around hundred tickets. "I am still amazed how much work we actually manage; the backlog is never overflowing, and the team is proud of how much work they have completed," Eric-Jan says.

This Kanban board keeps track of the quality tests for various pairs of skis. Inspired by IT's Kanban board, it is one of the latest improvements on the manufacturing floor.

Success!

The transformation that was achieved by the IT team in Blizzard Sport has helped to create and maintain intelligently connected IT systems that observe the flow from the order stage at the Tecnica Group Headquarters, through production in the two factories, and on to delivery to all of its subsidiaries and distributors. The integration gives everyone the same visibility on the state of the order portfolio. New information is instantly available as soon as an order comes in, instead of waiting to receive it from another entity within the group. "It used to take us four weeks of administration just to update and match the actual orders of skis with the quantities we had produced by forecast. That gave us even less time to react on the real demand," Eric-Jan describes. Now, as an order comes in, it goes straight into production. Eric-Jan's efforts and achievements have been acknowledged by the CIO community. At the sixth annual CIO & IT Manager Summit in Vienna he received the "CIO of the Year" award for the change management he implemented for the price of a flipchart, a few wall pin-boards, and a stack of post-it notes.

Kanban—key to satisfaction within the IT team—has spread back to the factory floor and more widely into the Tecnica Group in Italy. The quality department of Blizzard that checks skis as they are made has added a Kanban board that helps them have clarity into what has been inspected already and what has yet to be done. The American subsidiary of Tecnica Group has also adapted the Kanban Method in five of its departments, including marketing and HR.

In the early summer of 2013, Eric-Jan was assigned to lead the Business Process Management Initiative in the Tecnica Group in addition to his duties as CIO for Blizzard Sport. He spends two or three days a week at the company's headquarters in Italy, where he works on ways to optimize the flow of information through improved and integrated IT systems on a global scale. The cultural change is infecting the more conservative IT department of Tecnica Group. "The team is not the usual IT crowd. There are a few developers who are over fifty and the rest are over thirty-five," Eric-Jan explains. Adaptation to change and empowerment has been harder to achieve in that team. For decades they had sat in a classroom-style office. The employees were directly supervised by the IT manager, who sat in front like a teacher in a classroom. They were encouraged by Eric-Jan, as their new manager, to change it if they felt uncomfortable. Heartened by their new autonomy and the permission from a senior leader, the team turned their room into a co-working space where everyone now feels equal.

In the meantime, improvements on Blizzard's factory floor continue to emerge. Most of them have been suggested by the employees who take ownership of the process, something

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vital for the passionate bond Austrians have with their skis. To acknowledge the achievements of its empowered workforce, Blizzard displays pictures around the building showing certain parts of the factory before and after this new way of working. The base salaries of the employees on the factory floor, which formerly increased with the number of pieces each employee produced each day, are now higher for everybody. The incentives that come on top are only for the suggested improvements that affect the whole group. "Oftentimes I come to the floor and I see some new idea that was not present two weeks ago. It is remarkable that we achieved true continuous improvement after thirty-five years of status quo," Eric-Jan says.

The lead time for a batch of skis through the Blizzard factory, which used to be twelve to fourteen weeks, has decreased to six to eight weeks. Blizzard Sport's processes now run so smoothly that staff have plenty of time to worry about what really matters—whether Austria's alpine ski racers will win Gold in Sochi at the 2014 Winter Olympic Games.

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