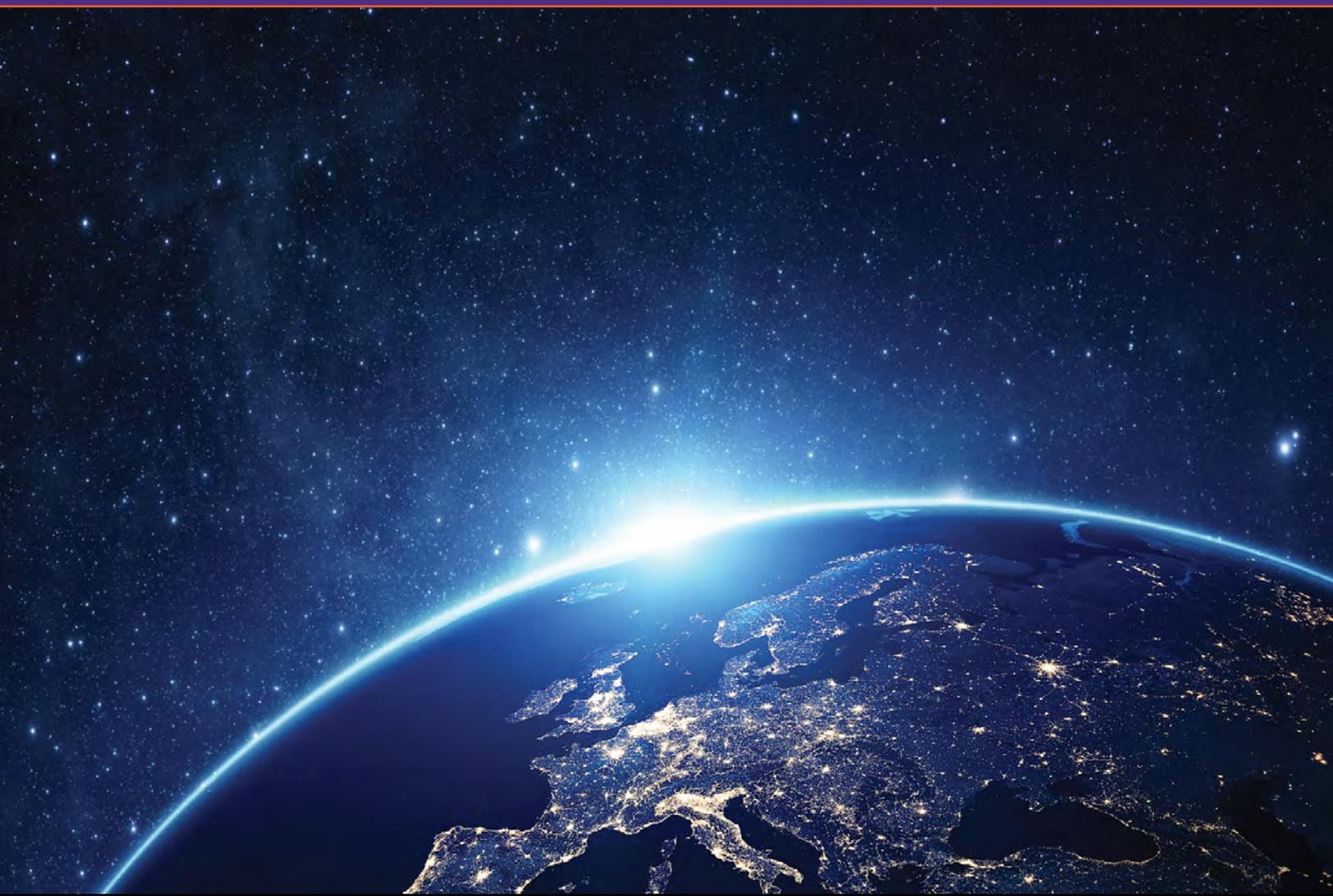




**KANBAN AT THE BRANDENBURG
LAND SURVEYING AND GEOSPATIAL AGENCY**
Discovering Potential Through Working Together



KANBANCASESTUDYSERIES

It was Monday morning. Jens Junkel sat down on his chair, switched on his computer and began counting the hours. It did not feel very pleasant being here. He suffocated in the governmental agency, where he rarely saw the fruits of his work. He wondered if his colleagues in the adjacent rooms felt the same way. Probably. They had not talked much in the past seven years. He was alone in his own project, they were alone in theirs.

To be part of the only agency that gathered geospatial information and created maps, he had thought back in the day, would be a very noble work to have. Instead he felt helpless and useless, with no one to share his pain to. It was a Monday morning in 2010 at the technical modernisation department of the Land Surveying and Geospatial Agency in Potsdam, the capital of the state of Brandenburg in Germany.

In the end of 2013, three and a half years later, life at that department feels very different. Jens and his colleagues are now good friends, which has proven to be key for success. They talk between each other, they help each other, they share the pains and the gains, they grow and improve.

That behaviour may be a drastic change from where they were a few years back, but to get there it has not taken a revolution. The power of their collaboration and interaction is showing in many things including an improved ability to finish and deliver projects. To change their ways has taken perseverance and bravery on their side and the help of the simple, yet effective evolutionary approach of the Kanban Method.

The result is that Jens and his colleagues now feel meaningful and proud and Monday mornings are a time for retrospective on the achievements of the past week, not a drag of the perspective of the upcoming one. This is the story how the overburdened public sector department got there.

Background

Any digital or physical map of the federal state of Brandenburg, is created with the data that the Land Surveying and Geospatial Agency, part of the Ministry of Interior, gathers. The people within the governmental entity have to constantly monitor and enter the changes in urban areas through images, benchmarking and descriptive data gathering. All this geospatial information is not simply represented on maps but it is also used for augmented computer models, which are used for easier facilitation of many decisions spanning from agriculture and environmental policies to healthcare, education, and social care.

People on Earth have been influenced by their physical

surroundings and have been looking for ways to turn them into situational awareness since the Babylonians. It was not until the 20th century though, that people managed to look and map the Earth from the sky, abstract what they saw on giant mainframes and fully understand what was around them.

Once computerised, the maps were filled with relevant information about land specifics, demographics, infrastructure, and other readily available information. Scientists took all of it and created models to analyse a variety of artefacts ranging from human behaviour and safety to changing landscapes and likelihoods of natural disasters. Augmented maps with layers of information have helped people to relate better to their own world and have the confidence to explore it.

But for maps to become useful for people, a lot of proper technology on Earth itself is also vital. Governmental entities such as the Land Surveying and Geospatial Agency carry the responsibility of providing and using them. The systems behind the technology are highly specialised and usually only public service organisations are allowed to handle the sensitive information they gather. Different independent organisations and associations throughout the world own the standards and protocols for gathering and handling the information and the local agencies need to comply.

The technical modernisation department is responsible for the maintenance and renewal of an array of technical systems and operations of the entire agency.



Regardless if it is the systems that gather the purely geospatial information, the systems that people use to organise all that information and make it relevant or the office printers, the system administrators from that department take care of all that. They act as service providers to a total of sixteen other departments from the agency, and are also involved in projects with other governmental bodies.

The work of the system administrators entails research and selection of vendors that can provide the necessary technological solution that they have received requirements for. These solutions are highly specialised but still need to carry an affordable price tag.

The highly specialised solutions also mean that the system administrators need to understand very well what geospatial information systems do and how they operate. The systems are complex and numerous, which from the beginning has meant that a single administrator is solely responsible for a given number systems.

Beyond selecting a vendor, the people within that department oversee that the systems comply with their stakeholders wishes and protocols and maintain them. Suffice to say, most projects the technical modernisation department works on are big in scope and take years to complete.

The Problem

“I cannot watch them like this anymore,” Hagen Zander thought one day in early 2010. Hagen had been the head of the technical modernisation department since it was first created in 2002. The eight people he was responsible for had been increasingly overburdened with work.

“By 2010 it was unbearable, I looked at the people and just could not handle to see the grim faces any longer.” Projects were vast, people were stuck because they lacked enough information from their stakeholders and only more work came in.

Most of the departments that were feeding work to the technical modernisation department had only vague ideas what systems and system improvements they wanted and usually didn't communicate that clearly enough. Whenever anyone of Hagen's employees needed a clarification, getting it was far from easy. A top down driven system with very solid hierarchy stood in the way of fast and adequate feedback.

Stuck waiting for information, the few people insipidly took in more work. It was hard to bring a project to completion. Out of the sheer magnitude of work, as well as this complicated stakeholder situation, delays naturally accumulated.

“I felt guilty that I was unable to deliver my projects but I didn't know what to do about it,” Jens says and continues: “We were constantly pushed to bring things to life and when we were late, everybody pointed their fingers at us. We wanted to deliver just as much, but we simply did not know how to deal with so much work and so many dependencies.”

In addition, the burn out had continuously been causing a divide between the people - they were members of the same department, but they were not a team. Stuck in their individual knowledge domains, they had no one to ask for help or advice.

Hagen himself had no idea how to help. “Maybe if we have a better process to manage the projects, things would be easier,” Hagen thought back then.

He contacted consultants who visited the department, suggested methodologies and processes, made presentations and left lots of paperwork behind. But nothing they said could be implemented in the complex world of the Land Surveying and Geospatial Agency.

The Spark

One day in early February 2011 Marcus Hippeli, a Berlin-based freelance software consultant, visited the department's office in Potsdam. Jens had invited him for a meeting to see if he could help with a migration project.

In the discussion they had, Marcus talked more broadly about project management and mentioned the concepts of Agile. He spoke about pragmatic ways to work, deliver projects step by step, while adapting their content to changing contexts during their duration, which all contributed to more efficiency. He mentioned various reasons that hinder productivity and that the skills of people are rarely the main cause.

In an Agile context, working boiled down to doing whatever needs to be done to get something finished. Marcus mentioned that through the years there were many success stories how this way of work produced better results and better delivery.

Something touched Jens as he listened. This Agile way of work in time frames, smaller batches, more focus and more communication with stakeholders sounded so tempting. He had always wanted to work this way. He wanted to know more. After so many failed attempts by other consultants who had incompatible ideas, Jens felt this could finally help.

Between Jens's and Hagen's relentless efforts to find a budget to finance a training by Marcus and the consultant's already busy schedule, it took more than a year for the training to take place. In March 2012, a two-day class was finally scheduled.

"They asked me to teach them how to do Scrum, a framework that had gained popularity for achieving agility. During the year that had passed since I had first mentioned it, though, I had gained experience with the Kanban Method, a non prescriptive way to reach an Agile state. From what I had noticed during my initial visit at the technical modernisation department,

their projects were very long term and timeboxed iterations were not what they needed. The skills of the people within the department were not the main problem causing the delays that frustrated them. It was the dependencies that had to be addressed somehow. The solution to their problems was not in a process, it was in their heads," Marcus says.

Even from his brief encounter with the team he had noticed how dependent they were on other departments and vendors. How fast they delivered depended on chasing all their stakeholders and convincing other people to pay attention to them. They needed to see that and a good visibility was the start. A kanban system was a great start. Marcus was hired to teach Scrum, but he decided to weave in a bit of the Kanban Method as well.



Class Day

“Just another consultant, teaching us useless stuff that are of no use to us,” the system administrators thought as Marcus stood in front.

After he explained the basics of Scrum, the ritual and the role, he went to tell them more about Kanban.

“He explained to us that Kanban is not a methodology, but rather a method that relies heavily on visualization of our tasks and the processes for their execution. We would not have to change anything in the beginning, but with time we would be the ones fixing our own issues. It was an evolutionary approach to change, but I was not sure how we ourselves could do that,” Jens says.

Marcus further taught them about the value and importance of transparency that a kanban system would give them, a core principal of Kanban. He spoke about the empowerment that comes with having visibility and control over your work and of decision-making that they could be enabled to do.

Marcus had noticed that the team was not well bonded and did not talk much between each other.

“What if one of your colleagues is hit by a bus tomorrow and cannot come to work, he asked them and continued: “None of you know what that person was working on or how far the project had progressed. What are you going to do then and how are you going to deliver?”

He wanted them to think about the consequences of not collaborating with each other. Not only was working lonely, but it was also more inefficient.

During the second day of the training, Marcus included a little game for the class to help them see how working together would feel. Split in teams, people were instructed to design a paper airplane that was both functional and aesthetically pleasing. Constrained by time they had to make enough prototypes for everyone to test and vote for the best.

“One of my colleagues turned out to do origami as a hobby, which I never knew about him. He taught our team how to make beautiful paper planes that flew through the whole room. We won the game and it was great fun,” Jens recalls.

It may have been just a game, but the underlining message was so powerful for Jens and his colleagues

that its effect spread far wider that even Marcus would suspect.

Marcus helped Jens and the others to create the first visualized board that portrayed the steps of work everyone went through. The board was put in the team’s meeting room.

“We had lived for years in an environment where transparency was not tolerated and someone had just told us it was the path to improvement. It was a breakthrough for us,” Jens says.

Hagen decided to try a mixture of Scrum and the Kanban Method. He liked the slicing of work items and estimating them, which was within Scrum, but he also wanted to borrow Kanban’s founding principal of “start with what you do now” and keep roles and responsibilities unchanged.

The middle ground was the introduction of only one role - that of product owner, which he took. User stories were split and placed in a backlog, the responsibility for which was Hagen’s. The board had a total of five visible columns: planned, impeded, analyses, in progress, done. As the board filled up with tickets, for the first time people saw just how overwhelmed each of their colleagues was. The level of multitasking was stupendous.



The Pitfall

Marcus's involvement with the team extended only to the training. The department did not have budget for more of his time.

"I was determined to help make this new way of work stick," Jens says.

The initial changes were small, but even they needed strong support in the entrenched structures. One of the new habits was the introduction of a daily stand-up meeting. Due to furniture constraint in the meeting room, though, it was a sit down rather than a stand up meeting. Those meetings, common to Scrum, usually take no longer than fifteen minutes. Each team member tells what he or she has worked on the previous day, what he or she would work on the following day and if there was anything that prevented work.

"It was really hard to get people talking and explaining what they were doing in front of everybody else," Jens says. People were busy all day, but when it came down to telling what that busyness entailed, people hid behind their big coffee cups and leaned back on the chairs. Jens tried to convince them to talk, but he did not really know how. Nobody wanted to talk on work in progress, they were all used to presenting only when it was completed. Eventually the team stopped having the meetings.

"Remember to look for improvements and change as you explore your processes and dependence and be brave to adjust the board with them," Marcus had told them.

While it was difficult to talk about the things on the board, the team had focused on doing the board perfectly. They believed they needed to apply all the principles Marcus had mentioned like limits of work-in-progress, appropriate lanes. They believed that if they had the perfect kanban system, problems would go away. But to get there was difficult.

As more time passed after the training, the momentum was fading away and with it the desire to stick to the change. It was easy to fall back to the slow and hierarchal ways of the past, especially when some of the team members had remained skeptical about the Agile way of working all along. With less and less time or willingness to talk, people grew quieter on each other. Not long after, each fell down the same rabbit hole of dealing with their own projects alone. Hagen himself was unable to prioritize the work all of them had to do and gave up on the role of product owner.

Soon enough all that had its effect on the board. The columns were turned into boxes; the process steps were exchanged with names of people. It was a fallback but Jens was not giving up so easily. He believed too strongly in this way of working. He still remembered vividly the paper planes game and how nice it had felt to work as one team.

The Transformation

In early 2013 the testing environment the team used was running out of life. Finding and deploying a new one was one of Jens's projects. He thought Marcus might be able to help so he called the coach. Jens wanted to use the opportunity to also get some Agile inspiration from the coach and show him the new board design. For him it was obvious they needed more permanent help with Kanban. As Marcus saw the new board design he felt the same. As serendipity would work its way Jens received a budget for more training due to staff increase and he arranged for Marcus to come and help.

"When I came back for the second class in early 2013 aside from the new people, I saw some familiar faces: the ones who had frowned at me with disbelief what good I could be for them. They came for more of the same. They may have failed the first time around

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but just like their colleague Jens, they had not given up," Marcus recalls.

During that second class he emphasised even more strongly the philosophy behind Kanban as a change management method, which does not solve problems on its own. It rather gives the stage for problems to be visible and addressed, so afterward in the discussions solution could be born. That was the role of a visual board - not to simply show who is working on what, but to rather focus the attention on the tasks themselves and what was it that prevented them from getting done.

"To have any chance with the change they needed a facilitator, to push them just a little and ask the hard questions," Marcus says.

Marcus arranged for his colleague from Leonavate, Vlore Kryeziu, to visit Jens and the others often. The first thing that Vlore and Jens discussed was the reintroduction of the daily standup as well as the introduction of a new meeting called a Retrospective. The meeting, which takes place once a month is meant to target discussions about both the processes and the team itself.

"I suggested running a 3-4 hour

decided to include two games in each retrospective to also help the general spur of discussions, which I knew would be difficult initially,” Vlore explains.

Before the team felt safe to talk about the processes they needed to feel safe with Vlore and that she was on their side and was not there to judge them. The games were their way to loosen up and cooperate with each other on something, which was safe and different from the context they were in during work.

“Someone might be typically shy and not take the leadership role, but when you put him or her in a context of a hidden talent such as origami, magic happens. They get comfortable and start showing potential. The others see it and then the mutual liking occurs. It is inevitable this would transfer to work related issues,” Vlore says.

“How did you feel?” Vlore asked Jens and the others after a particularly difficult game. People had been given a ball each and together they had to sync and “play” a song of their choice with them.

“We were afraid we would not be able to manage. To my surprise a colleague of mine had been taking music lessons since a child and had a very good ear for music so he helped us. We just went ahead with it, we

experimented and the result was pretty good,” Jens says.

The only problem the team faced was selecting which song to play. The game was a reminder how beautiful music was created only when people play together in unison. In the end they managed without the notes on paper, but they had a vision in mind. The exercise was reminiscent of how tasks are delivered in an Agile way through experimentation and improvisation together, compared to the prescriptive, long and lonely way they had been used to.

“I think each of us understood a little better why there was nothing to be afraid of in the new way of work. With less prescription and more experimentation it was actually a lot more fun. The visibility that Kanban gave was a great way to follow up on the experimentation and see if it had a good effect,” Jens says.

The retrospective was about much more than the games of course. The first serious issue that had to be addressed was the board. They had tried to make it perfect, missing its purpose to begin with. In fact it did not have to be perfect from the start, rather it mattered that it represented the steps they took accurately. They agreed that it would be difficult to incorporate all the recommendations all at once and it was fine to start small and imperfect.

“We moved the furniture to the sides of the meeting room so we could free the space in front of the board and actually stand beside it each morning,” Jens says.

Again speaking up was difficult. Vlore went to a few of those daily meetings.

“I think people found it as an assessment of their individual performance. I wanted to help them understand it was not a test,” Vlore says.

After a few meetings little by little they began to feel comfortable and began sharing. Each saw that what was of interest was how to complete the tickets and move them to the right of the board.

“And just as nobody spoke, something changed and they began speaking,” Vlore says.

As soon as they did, the meetings went on for 45 minutes, instead of fifteen. It was partially due to the specialisation of each, which required a lot of background explaining, but it was partially due also to the simple fact that a lot had been hiding inside and finally someone listened.



“In the beginning I think we murmured more than come up with constructive solution, but it was just so liberating to be able to share,” Jens says.

Still not everybody participated though. One of the system administrators had always remained at the back, continuing to feel uncomfortable sharing his work and never saying anything.

“I remember one daily meeting when he came to the front. He had a ticket he wanted to place on the board and discuss in front of everyone. I think I almost cried,” Jens says.

Slowly tickets began to move along the board. Both the daily meeting and retrospectives gave the colleagues a chance how to tackle difficult requirements and unclear expectations.

“We saw we were dealing with the same departments and people within them. We all had suffered with that and had built some experience. Now we could share it and through the accumulated knowledge get things done,” Jens says.

During a retrospective, the team decided to have a depository for finished tickets so everyone, including people outside of the department, understood the degree of improvement as well as to start building a knowledge of the metric of lead time.

“We still start more projects than we can finish, which creates delays, but we are trying to focus on finishing even when we have a dependency. When all projects are on the board we do not forget anything. And the positive feeling of moving a ticket to Done is very strong,” Jens says.

A sticker in front of Jen’s desk says “Stop starting, start finishing,” a slogan close to heart for the Kanban community.

By fall 2013 the team had their first daily stand up meeting without any kind of facilitator, not even Jens.

“They all got away from the comfort zone and did the meeting without feeling obliged,” Jens says.



By the end of 2013 the team has started doing the retrospectives without Vlore who has moved on to be an independent consultant. Led by Jens, the retrospectives still include games, and also result with homework for everyone to think about improvements.

Kanbanize the World

The external dependencies remain the biggest problem.

“The testing environment I had called Marcus to help me with was a deadlock because the people who were responsible for approvals were not being clear with me. I wish I could bring them to the board for two minutes, so they could see that we spend 80% of our time waiting on them to give us feedback” Jens says.

But in the world of public service Jens can only do so much – the requirements he works on come from department managers. He does not give up easily – he organized a small workshop about Kanban and

with the help of Hagen invited other department managers.

“They may have not understood completely the point of what Jens presented, but the sensibility and care for performance that he exudes caught their attention,” Hagen says.

“Our level of improvement will reach its maximum soon in the walls of our own department. As we reach it, we would either be stopped by the resistance beyond or we will actually get through it and maybe build a new road ahead for us and the other departments. We do not see a choice but to go for it and try to change their disposition to care about their work and take responsibility as we have. We want to Kanbanize the world,” Jens says.

As part of his drive, Jens did an interview together with Vlore for the yearly newsletter of the Land Surveying and Geospatial Agency, which described part of the Kanban journey and the benefits they have seen.

For the upcoming 2014, Jens and his colleagues decided to create a roadmap with all the projects they had ongoing as well as the projects they knew would come such as systems up for renewal. They asked other departments to fill in what projects each expects so the technical modernisation department would have a better vision and have more time to do the appropriate research.

“We are still to find out if this idea will work, but even if it fails we will try something else,” Jens says.

“Having been stuck for many years with my own projects I had forgotten the importance of what we are doing here. Geospatial information not only makes geography ordinary and accessible to everyone but it also allows information regarding climate change, crime density in cities, or spread of diseases to be publicly available. Once again we feel proud to be able to contribute to its great purpose,” Jens says.

Through the use of the teachings of the Kanban Method and the minimally intrusive, low cost measures, the levels of collaborative working have improved and as a result service delivery and value for taxpayers’ money has improved dramatically.

As a reinforcing side-effect staff morale and employee satisfaction has greatly improved with it. The culture has changed from fighting with daily mundane pushing of complicated projects to a bigger and smarter view of how to generally improve the way of service delivery so each individual project and participant can benefit together.

The journey of improvement with the help of Kanban will be long as the technical modernisation department tries to salvage and improve a system, built on very different principles and beliefs. But the team of twelve people has already seen how much easier it is to work with full transparency. With a special incline for change, they continue stronger and a little less afraid.

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