CASE STUDY

Real partnership key to success in Projection Sorting project at Posti

Finnish delivery and fulfillment company Posti has officially accepted 38 Flow Projectors from Computer Vision and Robotics company Prime Vision just before the end of 2022. The cooperation between the two parties is a great example of partnership between customer and supplier. When partnership fosters open dialogue and both parties hear each other out carefully, the process of modernization and large-scale automation can go hand in hand with quick decisions, rapid development and fast implementation.

In this article, Posti's Sorting Technology Lead, Janne Remesaho, and Director Logistics Technology and Data, Tommi Rantanen, talk about the project itself and the cooperation with Prime Vision.

The Product

What is the solution we are talking about? The Flow Projector is one of Prime Vision's newest sorting solutions that is based on the company's decades of experience in Computer Vision. The Flow Projector projects by laser any alphanumeric number onto a parcel, making its destination clear at a glance. The projector is able to project multiple numbers at the same time onto individual parcels at the end of a chute or on a moving belt. This allows employees to pick up and sort multiple parcels at once and it eliminates the need to read labels and memorize address or route lists, allowing employees to quickly do their jobs 100 percent effectively, regardless of knowledge, experience and level of education.

Posti and Prime Vision have known each other for few years already, but can you describe how the cooperation on the Flow Projectors came about?

Tommi: ,,In October 2021, we were in Vienna at the Parcel & Post Expo show and we participated in a tour to Austria Post, where Prime Vision had set up a demo. One of the things we saw there was a special handling line, with a loop conveyor belt where parcels went around and a few projectors were mounted above. At the time, no one was processing those parcels, but we could roughly see what the system was capable of. Our first reaction was, 'wow, that's interesting'. And then, for some reason, we kind of talked ourselves out of it, along the lines of: this probably isn't going to work for the use case we had in mind."

Tommi Rantanen, Director Logistics Technology of Data of Posti

Still, Posti took the time to challenge the Prime Vision team. One of the questions to CCO Dirk van Lammeren and Account Director James Schlechter was: can Prime Vision get even more out of this Flow Projector? Their answers proved interesting enough for Posti management to further discuss it at home.

Janne: ,,We were speculating among ourselves, is this good for what we think it's good for? There were plenty of opinions, every person had a different view. So we concluded that the only way to find out was to do the pilot, which we started in early 2022. Straight away, we noticed that the Flow Projector had the potential of making the chute work more efficient.''

The initial feeling that the Flow Projectors might be a good solution for Posti, was supported by the numbers from work studies done during the pilot. Janne: ,,The main benefit is that the workers have their hands completely free to do the chute sorting, instead of using a PDA. Another benefit is that, if and when the projector shows the same route on multiple parcels, the chute worker can pick them up all at once instead of having to go through them one by one. We compared both the old and the new way of working and yeah, the numbers were showed that it was much more efficient with the projectors.''

The workers have their hands completely free to do the sorting

Tommi: ,,I remember vividly this anecdote from a work instructor who had been working on the chute for a few weeks during the pilot and then went back to a normal chute, where he had to work again with the PDA. He said that going back to the old way felt really cumbersome and kind of unnatural. The muscle memory to just pick up parcels and put them away was so much smoother. That in itself, I think, is a strong indication that working with the projectors is a more natural way of working.''

Janne: ,,And if it feels better, you likely are more willing to be efficient. If it feels awkward, you don't feel like you want to do your work faster.''

What about the cooperation between Posti and Prime Vision? Did that go smoothly, or were there obstacles in the way?

Janne: ,,I have had excellent connections with Prime Vision. And now that we are in production, it is more like a partnership where we clearly are actively developing the product. We are always eager to test new features, because we've seen how they really take us forward. We try to actively give feedback to your development department about how the changes turn out and what could be better. I feel like all the collaboration, even going back to the purchasing phase, went smoothly.''

,,You know, projects are always a hassle. You can't do a project without any problems. But the way Prime Vision took care of the problems, I think it was pretty impressive. The feedback I got from Production was that they were really happy. What can I say? It was really good.''

,,We at Posti weren't always prepared for everything, but it really contributes to how happy we were with Prime Vision that we could solve everything while moving forward.''

Tommi: ,,After the pilot, we were in a hurry to get the projectors in use, because we wanted them to be fully operational for a solid month before the start of peak season, so we would be sure everything goes smoothly during the year-end high volumes. I remember we were in a hurry to finish the contract negotiations, but still the negotiations of the terms went smoothly. Where some suppliers would take advantage of our urgency, Prime Vision maintained a great service attitude.''

● **In Case of Trouble: Responsiveness and Customer Focus**

As mentioned, wherever there is a project, there are problems. In the Flow Projector case, there was a misunderstanding about the number of alphanumeric digits the projector was able to project simultaneously onto parcels. Prime Vision provided 16 digits, while Posti understood 16 projections.

Tommi: „16 projected digits, that is more like eight routes, because many of our routes' numbers are double digits. As you understand, one of the key benefits was that a person could pick up multiple parcels at a time. But if you have over 10 positions at the end of a chute, and the projector is marking only eight parcels, then it's unlikely that many of them will have the same destination. Or, rather, most of them won't. That was kind of a disappointment. But, iterating, Prime Vision was eventually able to increase the efficiency of the laser, so we reached a maximum of 20 positions projected at a time.''

Janne: „Increasing the number of positions had a drawback, though: the numbers weren't quite stable, but flickering.

Tommi: „We discussed this internally and came to the conclusion that we needed balance between easiness to read and process efficiency, which we conveyed to Prime Vision. The team worked on it and the end result was really good. Overall, the kind of responsiveness to customer requirements was impressive. And it showed the true interest in making an excellent product.''

Janne: „At the beginning of this year, we got an improvement where Prime Vision changed the font for the numbers, which made the projection even better. Such examples prove you are actively developing the product and that's just great: if we raise a problem, you fix it.''

„Prime Vision is really showing interest in what the customer is asking and this is not self-evident for all companies. That is something you should be proud of as Prime Vision, that you really listen to and take care of your customers.''

Tommi: „It shows that this is important to you. As a customer you can sense it, there is a mutual sparring relationship. We can challenge you, you can challenge us. There is actual, true dialogue, not just nodding and fulfilling requirements.''

Posti has a tradition of working with technology-driven improvement pilots, can you tell more about that?

Tommi: „We want to give that way of working a rebirth, driven by business or operational need. Maybe in the past, pilots have been too much technology driven, without a vision of how the solution would actually scale. The Flow project was one of the first pilots where we really went with new technology and at the same time a vision of 'if this works, how will it be used in scale'. At the moment, we are running multiple pilots with the same approach: a quick proof of concept where, at first, not everything is thought through to validate the technology, but for which we do already have a vision of how to scale it. So, the time from the proof of concept to scaled industrial use, is very short.''

„We are very lucky to have Jari Paasikivi as our Technology Innovation Lead. He has an extensive background at Posti and has a joint understanding of processes and technologies. He is not the person to do a technology pilot without knowing how it would scale up. He foresees limitations, such as why something wouldn't work or fit the process. It's very important that technology innovations are driven by such a person, because if he were 'just' a tech-guy, he would potentially be focusing on the wrong aspects. Because of his process understanding, we are able to scale quickly after a proof of concept is successful.''

Posti practices a holistic view when it comes to developing the company. Tommi: ,,I think we have a few advantages compared to other players in the field. We really tie the operations into everything. When we look at commercial aspects, we don't think of commercial aspects alone, but we see them in the context of running the logistics operations. When we look at technology, we look at it from the perspective of running the operations. Truly understanding how to run and scale operations and managing the operative network is one of our strengths. But like many of our peers, we do still have plenty of work to be done to modernize and digitalize.''

,,At Posti, we have a bit of everything. We have 20-year old legacy systems, and on the other hand we have one of the most advanced data engineering capabilities in Finland. Another example is that we have our own in-house developed parcel-locker technology. It is one of the largest IoT networks in Finland, with well over 100,000 devices. We were also one of the first companies in the world to implement parcel-locker technology on a large scale. I would argue that we are one of the best in understanding how to best run a parcel locker network.''

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