The Future of Prison Digitalisation and Technologies

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The interview took place on 12th June 2025.

HW: Thank you so much, Pia, for agreeing to be interviewed for this special edition. To begin with, could you briefly describe your background and expertise?

PP: Thank you for the invitation. By education, I'm a forensic psychologist and psychotherapist. I previously worked as a prison psychologist before joining the Central Administration Unit of the Finnish Prison and Probation Services in 2017 as a Senior Specialist. Between 2018 and 2022, I was the Project Manager for the Smart Prison Project, a technology focused initiative. Although I'm a psychologist by training, I've taught myself about digitalisation and technology. Between 2022 and 2025, I was working as a team leader in the operative management unit, overseeing a 12-member team. Now I work as a consultant via my own company MindTech.

HW: Could you tell us more about the Smart Prison Project?

PP: Certainly. The project introduced a new prison concept implemented in three Finnish prisons. A key element was providing each prisoner with a personal terminal in their cell. This terminal included specially developed software called Doris, which facilitates digital communication, management, and access to services inside the prison. Prisoners also have limited access to selected external digital services.

The concept was described as creating a 'prison as a learning environment for a life without crime.' The technology aims to support rehabilitation and reintegration by giving access to educational, psychological, healthcare, legal, and social services. Prisoners can also communicate with family and professionals via video calls, email, and a restricted internet (currently around 2,000 approved URLs.) Access to websites was restricted in a way that we thought suitable for the prisoners, for rehabilitation and educational purposes. Prisoners and staff can also suggest new websites to be added, and then of course we check all of them.

HW: What has the feedback been like from both staff and prisoners?

PP: The feedback has been mostly positive. Since 2022, annual user surveys from prisoners were gathered through the Doris system. There is strong agreement from the prisoners that the system is easy to use, that it provides a lot of opportunities for rehabilitation and reintegration, and that it supports some very basic rights. The in-cell technology enables people to take care of their daily affairs and use it to enable certain civil rights (such as contact with a lawyer, or healthcare services) and access information and education while they are in prison.

Of course there was feedback from staff too. Staff have reported that work flows are faster and smoother now that they are done digitally. It's easier to monitor video calls. And it's easier to collaborate online with different stakeholders particularly when prisoners need to contact different parties involved in the rehabilitative process. Healthcare staff, in particular, have found the system beneficial and have expressed a strong interest in having it implemented in all prison polyclinics.

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HW: Were there any challenges or risks involved in the implementation?

PP: Security is always the primary consideration in a prison setting. Extensive conceptual work was conducted, and work related to security standards to identify the limits of the system, what we can do, what we cannot do, what's the purpose of the system, and what we need to take into account. And then from the technical side, there were multiple requirements related to data protection and data security. Multiple security audits of the devices and systems were conducted. Collaboration with field staff was essential, as they are highly aware of daily operational risks and contributed valuable ideas for mitigation. One of the biggest challenges was cultural. Introducing digital systems required a shift in mindset for both staff and prisoners. It took time to build trust in the system and convince staff and prisoners that this is for the better. Those that have worked or been prisoners in a smart prison and then go to a so-called 'normal' prison, can definitely feel the difference and would never want to go back to the old system again.

Another major challenge is financial; budget constraints have made it difficult to expand the concept, despite evidence of cost-efficiency. The benefits would outweigh the costs if we had the courage to do it.

HW: Are there plans for a long-term evaluation of the Smart Prison concept?

PP: I hope so. The first Smart Prison was launched in 2021, followed by the second at the end of 2022 and the third in the Autumn of 2023. While these experiences were still relatively recent, the prison environment has evolved significantly with overcrowding, and staff turnover affecting operations. And these challenges are related to the political and financial changes that we have faced. Time will show how the concept can be developed and evolved. There are new challenges, and so the concept may need to be remodelled as time progresses.

HW: And how can technology change the way people experience their time in prison?

PP: I would say that technology can definitely change the daily rhythm and level of activity in a prison. Before the introduction of this technology in the Finnish Smart Prisons daily prison life was quite slow and activities were restricted to those which could be provided by prison staff during limited time frames. But now there's something meaningful to do all the time, even if you are just in your

cell. The reality is that despite providing face to face activities, prisoners still spend a significant amount of time in their cells. So that's why I think it's good that the cell device provides opportunities for independent studying and rehabilitation activity and services.

For staff, digitalisation has reduced administrative burdens. Appointments forms and requests can now be submitted and processed electronically. Information-sharing in real time has also improved through digital noticeboards and video communication, both internally and externally.

Furthermore, time and expenses can be saved by using digitalisation to solve some of the logistical challenges of arranging in-person visits or transporting prisoners for hearings. Video conferencing has partially alleviated some of these challenges. This has been especially valuable for prisoners whose families live far away or abroad. There's more communication possibilities and more opportunities for prisoners to make contact with their lawyers or prison staff. Before, it could take days or weeks for communication to come back from a staff member or lawyer on the outside. But now the contact to the outside world doesn't drop as much as it used to. Obviously, part of incarceration is restrictions from the outside world, but I think keeping contact with society and family is very important for prisoners; technology can help people to maintain contacts and stay on track.

HW: There is some concern that increased use of technology might reduce the relational aspects of prison life, such as face-to-face interactions between staff and prisoners or in-person family visits, which we know is so important to improve outcomes. What's your view on that?

PP: This is a common concern, but I believe it's partly a misconception. I think there is more communication nowadays than there used to be when I was younger. Thanks to technology there are more relational possibilities. It can be easy to forget that even when contact is transmitted via digital means it is still communication and interaction, and it can be relational and can involve others. And it breaks down the barriers to contact your family on the other side of the world. For example, if you are a foreign prisoner in prison in Finland, video calls have been very important. We have to remember that technology is a tool. And my experience in Finland has been that we have managed to provide a good balance between technology and face-to-face connection.

Technology, when used well, enhances rather than replaces communication. In fact, I think modern technology has increased our capacity to stay connected and build relationships.

In Finland a hybrid model was the aim; technology supports but does not replace human interaction. Research from a Finnish women's Smart Prison found that ICT increased accessibility to staff and lowered the threshold for prisoners to initiate contact. This is critical, especially since limited staff availability has long been a source of frustration for prisoners.

Importantly, digital access doesn't eliminate face-to-face interaction but complements it. Prisoners feel more informed and supported, and delays in communication especially with external contacts like legal representatives have been significantly reduced.

HW: And what about individuals who don't have the skills to use digital technology? For example, some older people in our prisons struggle with technology, particularly those who've been incarcerated for a long time and have missed the digital revolution. Did you encounter this issue, and how did you train people?

PP: That's a very important question. One key reason for introducing ICT in prisons is to address digital marginalisation, which is increasingly a form of social exclusion. This risk is particularly relevant for those who've been long-term incarcerated.

Digital skills among prisoners and even among staff vary significantly. I supervised a student this spring who studied how well the Smart Prison concept supports rehabilitation and reintegration. One of her key findings was that while the Smart Prison concept offers a lot, the benefits depend entirely on whether individuals have the skills to access and use the services. This is where staff play a critical role; they need to identify and support prisoners who require help using the technology.

Interestingly, the generational divide in digital skills isn't as wide as one might think. The "digital native" line already starts around age 30. Those older than that likely didn't grow up with smart devices, and that's a key factor to consider.

HW: We often feel that the criminal justice system is behind other sectors when it comes to digitalisation. Why do you think that is?

PP: There are several reasons. Firstly, prisons are high-risk, high-security environments, and that creates natural resistance to change. Secondly, our sector tends to be conservative. There's often cultural resistance, similar to what we saw when rehabilitative and programme-based work was first introduced in prisons. Cultural change takes time.

Funding is another key issue. Prisons aren't often politically prioritised for additional resources. Overcrowding and high staff turnover, which are global challenges, also limit our ability to focus on long-term innovations.

Another barrier is the lack of in-house technology expertise. Prison administrations are typically staffed by professionals with social or administrative science backgrounds, which means we rely heavily on external technology consultants. These consultants may not fully understand prison culture, and that disconnect can slow progress.

Despite these barriers, I believe the future of prisons must be digital. Society is becoming increasingly digital, and prisons cannot operate in isolation. Providing access to digital services is becoming essential to ensure prisoners' rights, education, rehabilitation, and healthcare needs are met. We cannot avoid the increasing use of digital devices and services.

HW: How has technology been used in Finland to modernise the criminal justice system?

PP: Within the Finnish prison and probation services, client management systems are already quite advanced. However, these projects are large-scale, resource-intensive and expensive.

Video conferencing for court hearings is increasingly common. There's also a growing emphasis on self-service and allowing individuals to participate more independently in their legal processes.

A challenge in this space is data sharing. General Data Protection Regulation (GDPR) and other privacy laws can restrict integration between systems. But development in this area is ongoing.

HW: In the UK, recent sentencing proposals have put technology, particularly artificial intelligence (AI), at the centre of criminal justice reform. What are the potential uses of AI and other technology in prison and probation that haven't yet been realised?

PP: Globally, we're still in the early stages of digitalisation especially in Europe. Some of the most advanced examples are in Asia or the US, but we have a long way to go. AI in prisons is mostly used within security and then in the offender management systems to automate certain processes and analysis. AI has been used since the 2010s in the risk assessment of people in prison or on probation. There are also examples where AI-based applications are used for rehabilitative purposes. This would include use of virtual reality (VR) for rehabilitative purposes, and in the US some prisons use AI-based virtual therapist trained in CBT (cognitive-behavioural therapy). In Finland, prisoners can learn basics of AI on an online course to increase AI literacy too.

AI will play a much greater role in the future. AI will change things. We'll see more digital services for prisoners and more rehabilitation delivered online. The term 'digital rehabilitation' is now appearing in research literature. Alternatives to traditional custody like electronic monitoring will likely become more common too. Ideally, AI will support our procedures through the whole offender management cycle: assessment, classification, planning, execution, evaluation and adjustment. As part of my studies in Finland, I designed a tool for assessing people in prison and on probation and planning their sentence time. The application would recommend suitable services for prisoners based on their background information. The idea behind these kinds of applications is that AI will mimic the expert analysis process done by humans and start to help us with more accurate and compatible analysis and placement of prisoners.

> AI will support offender and resource management by automating routine administrative tasks freeing up staff time for meaningful face-to-face rehabilitative work

We can expect AI to support offender and resource management by automating routine administrative tasks. This could free up staff time for more meaningful face-to-face, rehabilitative work. AI in monitoring and security will also increase. I think we will see more of those virtual assistants and therapists like in the US to support with the daily work where staff resource to support is limited. In the US and some Asian countries, robots are already involved in the monitoring work in prisons. Prisons will transform via digitalisation and AI - I think, it's inevitable.

HW: What about technology's role in creating safer custodial environments?

PP: Technology in prisons has traditionally focused on security. That's understandable - security is the priority, and it's technically easier to implement digital solutions in this area.

Advanced monitoring systems, including CCTV have already transformed security. But I also think AI will transform the security and monitoring field further. It will make monitoring easier, facilitating faster responses to incidents and supporting staff in risk detection. It will also benefit prisoners by improving overall safety. Prisons are not always safe spaces, and some prisoners have very difficult behaviour problems.

I hope in the future, when AI is used within security, it will be for the benefit of everyone, society, staff and prisoners.

AI is even being used currently in some cases, to detect suicidal tendencies or other behavioural risks, analysing biometric data, movement, and other indicators. While this is promising, it does raise significant ethical and privacy concerns, which we must take seriously, and work through.

HW: What risks or challenges do you foresee with these advancements?

PP: One major issue has been that we have not had regulations in place. Until recently, there were no clear rules governing AI use in our sector. I was part of the Council of Europe's working group that released the first AI guidelines for prisons and probation in 2023.

There are many risks to the use of AI. We work with vulnerable, stigmatised groups, so there's a risk of misusing AI such as using it solely for control or surveillance, at the expense of privacy or rehabilitation. Bias is another concern. AI systems can unintentionally replicate societal prejudices if not properly designed. We need to be careful when we train and develop AI systems so that they don't start to repeat the same kind of mistakes as humans do. Thinking fallacies are typical when working with a stigmatised group, or minorities in general. And the risk is that these come through in AI too.

Legal frameworks are still evolving, but the pace of technological development often outstrips ethical and legal oversight. This is not unique to justice systems, it's a challenge in all sectors.

Finally, we must remember that not everything should be automated. Human contact is essential in rehabilitation; it is at the core of rehabilitation. When working with humans, you have to stay human, and of course none of the systems we've talked about can run without human involvement, regulating, monitoring and developing the systems. So, we are far from the kind of future where human oversight is not needed. I don't believe that's reality – human resources will be needed in all of our practices in prisons and in probation. Technology should support not replace face-to-face interactions.

HW: That's reassuring, so we're not out of a job just yet!

PP: Definitely not! There's still plenty of work for us to do.

HW: You mentioned earlier some global prison challenges, overcrowding, and staff turnover, for instance. How do you think technology might help address those in the future?

PP: Even if it's not the primary goal, technology can absolutely ease some of these pressures. It reduces administrative burden by making daily processes faster and smoother. For example, prisoners can now do certain things independently like sending documents or booking appointments which previously required staff intervention. That saves time and allows staff to focus on other essential duties. It makes staff's work easier.

Transferring prisoners for court, healthcare, social services also consumes significant staff time and resources. When these interactions can be managed digitally through video conferencing or online messaging, it's much more efficient and safer for everyone.

In these ways, technology can make the daily life a little bit easier and done more independently by the prisoner, which allows staff to concentrate on rehabilitation efforts.

With overcrowding, prisons often become more tense, with more fights, aggression, and behavioural issues. There are more fights and misbehaviour because of the overcrowding which is understandable because of the psychological and physical burden and stress that people are exposed to. But research has shown that digitalisation can actually calm the prison atmosphere. When prisoners are given meaningful activity, a sense of agency, and access to services, frustration can be reduced. When prisoners have agency over aspects of their case or how to use their time, it can make their time in prison more bearable. One study even found a reduction in disciplinary offences and recidivism rates among those released from digitalised prisons. So, providing digital access, equitably, can directly support wellbeing and the development of a more positive prison culture. It's also fair when services are provided for everyone, it's equal, so everybody has something else to do in their cell, everyone has the alternatives.

HW: That's fascinating. So, digitalisation could actually improve prison culture in many ways?

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1 McDougall, C., Pearson, D. A. S., Torgerson, D. J., & Garcia-Reyes, M. (2017). The effect of digital technology on prisoner behavior and reoffending: a natural stepped-wedge design. Journal of Experimental Criminology, 13, 455-482.

PP: Exactly. It promotes fairness, autonomy, and rehabilitation. When prisoners have meaningful, constructive alternatives to occupy their time, it helps maintain order and dignity within the facility.

HW: What advice would you give to other prison services looking to improve the use of digital technology?

PP: Here in Finland the work was started with a clear concept. The conceptual work has to be done first. Don't just implement digital tools for the sake of it. Define what you want to achieve, what's the purpose behind introducing technology? In Finland, the foundation was a rehabilitative vision. The technology had to support that.

I would then advise to start small and with pilot projects, like Finland did with the women's prison. Trial the concept, gather feedback from both staff and prisoners, and adjust based on their real-world experiences. If it works out, you can then extend and develop it further. Listening to end-users is crucial. From the very beginning you should gather continuous feedback from end-users, from staff and from prisoners, and listen to their needs and points of view.

And I just want to say this one more time: technology needs to be combined with deeper knowledge about prison work and expertise behind it; the psychological, forensic, healthcare and educational needs of people. Technology must be guided by these needs, and by ethics and values. That's the approach I've taken in the work I've done merging digital solutions with ethical thinking and a rehabilitative ethos.

HW: This has been so fascinating, Pia. It's exciting to see how the future might evolve, even if it's also a bit daunting.

PP: I agree. That's why careful planning and ethical oversight are so important. Technology must evolve in a controlled, responsible way especially in an environment as sensitive as criminal justice.

HW: Yes, absolutely. Given all the past mistakes, it's vital we get this right.

PP: Exactly. We've made enough mistakes. Let's make sure future developments truly serve everyone: staff, prisoners, and society alike.