FASTER, CHEAPER, BETTER – DNA TESTING AT ESR

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Faster, cheaper, better. That was the challenge set down to the Forensic Biology Group at ESR. Trying to encourage more work to be submitted in the face of decreasing sample submission rates had brought about the question of how to deliver services faster, cheaper and of a higher quality. In order to meet this challenge, ESR automated their routine forensic DNA services. This involved the introduction and validation at ESR of the Hamilton STARlet robot, as well as a move away from manual organic and Chelex extraction chemistries to DNA IQ™ and its optimisation on the robotic platform.

One of the biggest impacts of this highly successful change to ESR's routine forensic DNA services is the dramatic decrease in turnaround times that has been achieved through automation. ESR now routinely process volume crime samples within a targeted five day turnaround time allowing law enforcement to be investigating volume crime in 'real time'. The changes made to facilitate this have also had positive flow-on effects on the turnaround times of ESR's serious crime and National DNA Databank work-streams. Having such work systems fully implemented also assisted ESR's rapid DNA response to the disaster victim identification process that arose as a result of the Christchurch earthquake.

This presentation aims to briefly examine some of the key reasons for the selection of Hamilton robotics, some of the challenges faced in the move to automation and DNA IQ™, the impacts on changing work patterns to the team, how the rapid decrease in turnaround times was achieved as well as further work being undertaken.