Public Safety & Justice

Genealogy+

AKKODIS

Investigative Genetic Genealogy (IGG)

Investigative Genetic Genealogy (IGG) has become a powerful tool to support the investigation of serious crimes. IGG helps investigators turn DNA dead ends into actionable leads by pointing to likely family branches when STR/familial searches fail, rapidly shrinking suspect pools and speeding lawful reference sampling, confirmatory STR matches, and warrants.

IGG focuses the vast amounts of digital evidence - phones, laptops, CDRs, CCTV, banking, socials etc. - so analysts look in the right places first, saving weeks and reducing missed evidence. Used correctly as lead-only, it strengthens case quality, supports exoneration of the innocent, and disrupts serial or high-harm offenders sooner.

In unidentified human remains (UHR) cases it can restore a name, unlocking the investigation and giving families the answers they need - delivering justice faster while maintaining public trust through opt-in databases, approvals, audit logs, and profile removal on case closure.

As of December 2023, this technology has solved a total of approximately 651 criminal cases and is a rapidly growing discipline in Police forces worldwide .

About Genealogy+

Genealogy+ is software that enables Investigative Genetic Genealogy (IGG) practitioners to create a Genetic Family Tree for the purpose of solving previously unsolvable serious crimes that have unidentified DNA. Genealogy+ is web-based software that provides a shared workspace for IGG experts to quickly and easily map genetic pathways.

Genealogy+ leverages existing, proven capabilities that are deployed in other products in the Akkodis Public Safety & Justice portfolio, helping investigators rapidly uncover insights that can assist in building evidentiary support to prosecute crimes.

IGG is an emerging capability available to police but currently suffers from a lack of viable tools. Current IGG practices rely on a patchwork of websites and offline programs to map genetic pathways (Genetic Family Tree) which are vital components in solving cases with DNA that is not matched on any available databases.

*https://en.wikipedia.org/wiki/Investigative_genetic_genealogy

Why Genealogy+

IGG is an emerging capability available to police but currently suffers from a lack of viable tools. Current IGG practices rely on a patchwork of websites and offline programs to map genetic pathways (Genetic Family Tree), that are a vital component in solving cases with DNA that is not matched on any available databases.

Currently, IGG investigations are slow and highly manual intensive process; resulting in cases taking months or even years to solve.

IGG experts will assimilate information from multiple public online genealogy sites, Government organizations (Births, Deaths & Marriages) and other intelligence sources. This is combined and refined into a Genetic Family Tree which is built manually using several separate tools, including, paper, glue, scissors and highlighters; leading IGG investigators to the person matching the unknown DNA profile.

Genealogy+ is a world-first product that will eliminate many of these manual processes reducing the time taken when working on investigations;

- Eliminates the need to input the same data into several programs which don't talk to each other
- Speed up the workflow process from months or years to days or weeks.
- Provides opportunity for the team to simultaneously work on the same investigation at the same time, allowing quicker results to be obtained
- Creates a simple streamlined disclosure capability.
- Highly scalable and can switch between displaying large volumes of a Genetic Family Tree to small sections in seconds
- Using high powered algorithm can with a touch one button display linkages from one source of data and then combine all the data on one screen using the filters and layers algorithms. This automation rapidly speeds up the resolution of IGG cases.

Further, continued use will allow the storage of previously used Genetic Family Tree information which will accumulate over time and significantly speed up the IGG process to the point it will be capable of being deployed to active current serious crime investigations.

Benefits

Current Practices	Genealogy+
Each investigation can only be worked on by one person at a time.	Any number of IGG members can work collaboratively in real time on the same case with instantaneous updating.
Requires the use of several separate programs and tools which do not talk to each other or share information. This translates into the same information being typed in several times which takes time and resources.	Can digest information from several sources and only requires inputting data once which is stored in the Genetic Family Tree which makes it available to future investigation.
No control over programs and tools currently being used which can be restricted or removed at any time.	One program with local access to program team for quick resolution of issues and requests for enhancements.
Takes significant time and effort to inboard new staff and teach them how to use each program and tool.	Simple and easy to learn with training only requiring a few hours to become proficient.
Unable to easily use information from previous investigations. No search functionality.	Stores all imputed information. This is then searchable and available when starting the next investigation.
Disclosure is difficult and requires time to put all the work product in a format to comply with disclosure requirements.	Simply selection and exporting of a single viewable file in minutes.
Once all the information is sourced, to represent the Genetic Family Tree a printout is made and colours are used to show the different types of information on the paper printout. Given the huge size of the Genetic Family Tree (up to thousands of names) this make require several versions to be made. This is time consuming and labour intensive.	Takes seconds to select and export as a file or printable document. The programs use layers which show different types of important information which can be turned on and off or combined and displayed on screen in seconds.
Genetic Family Trees can be very large and very difficult to display all the information. This results in wall size Genetic Family Trees which as information is applied becomes irrelevant as large section are not linked to the unknow DNA profile.	Program is scalable and contains several smart processes optimized to be able to quickly expand or contract information on the screen as further data and result are applied. This solves the issue of dealing with large volumes of information but only needing to display small portions of it at a time.

About Akkodis

Akkodis is a global digital engineering consulting company that enables organizations to innovate and accelerate by applying technology to redefine how processes and products are developed, powered and optimized. With deep expertise across AI, data, cloud, edge and software engineering, we combine technology and talent to deliver end-to-end solutions, from strategy and consulting to talent development and implementation. Our commitment helps businesses connect the exponential power of technology with the irreplaceable strengths of human thinking and collaboration.

Part of the Adecco Group and headquartered in Switzerland, Akkodis brings together 50,000 engineers and tech consultants in over 30 countries with services that span Consulting, Talent, Solutions, and Academy. With a cross-sector view and strong delivery capabilities, Akkodis empowers businesses to solve complex challenges and achieve sustainable impact. Akkodis Australia.

Find out more

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Engineering a Smarter Future Together

Leveraging the power of connected data to accelerate innovation and digital transformation.

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