MARCH 2024

The Future Intelligence Analyst

PAUL RIMMER CBE

leidos

The Future Intelligence Analyst

James Waddington,
Division Manager, National Security and Defence, Leidos UK & Europe

FOREWARD

In this thought leadership paper, Paul Rimmer CBE reflects on the need to constantly balance the promise of new technologies and the importance of the analyst through all stages of the intelligence cycle. As a former Deputy Chief of Defence Intelligence, he has a lifetime of experience working at the forefront of intelligence analysis. In this paper, Paul highlights the centrality of the intelligence analyst to the delivery of timely and accurate intelligence product. His message resonates strongly with Leidos' mission to makes the world safer, healthier, and more efficient through technology, engineering, and science. Whilst technology will revolutionise many aspects of an analyst's work, it is critical to integrate this with the supporting processes and, most importantly, the people who make intelligence valuable.

Leidos is at the forefront of delivering innovation and advantage to organisations such as Defence Intelligence through the identification, integration and support of leading-edge technologies. Our researchers in Artificial Intelligence and Machine Learning are investigating disruptive analytical techniques, within trustworthy, resilient and adaptable frameworks such as FAIRS. Our software and data engineers are developing capabilities such as Data to Intelligence, bringing a sense of order to disparate data and allowing the application of advanced AI techniques. Leidos system engineers have harnessed leading technologies to deliver solutions such as the Document Exploitation (DOMEX) Data Discovery Platform (D3P), applying a layered, microservices-based architecture in the delivery of timely and complete DOMEX to the US intelligence community. For decades, Leidos has worked with the US National Geospatial-Intelligence Agency (NGA) providing specialist analytical support, all source analysis and most recently, support in operations and sustainment of NGA systems. In the UK, Leidos operates critical elements of support to Defence Intelligence, with a ten-year relationship, including delivering the Imagery Exploitation Programme and the PICASSO IT Service Management function.

Through these capabilities, our people, and culture, Leidos stands ready to meet the challenges facing the Intelligence community.

The Future Intelligence Analyst

Paul Rimmer CBE

Headlines about Artificial Intelligence (AI), its advantages and risks, could leave the impression that the days of the human intelligence analyst are numbered. So, is the biggest challenge to today's analyst simply hanging on to their job? I don't believe so, and in this paper, I set out what the future analytic environment might look like and how technology will assist the unchanging central place of the human analyst. But first I want to focus on the challenges the professional intelligence analyst faces today in achieving their core responsibility - delivering understanding and advantage to decision-makers. Many of these challenges are wrapped in the classic intelligence cycle, whilst others require a reorientation to respond to modern technology.

Looking first at the intelligence cycle:

- **Prioritisation & Direction.** The most beautifully prepared piece of work has no value if it is irrelevant to decisions that need to be taken. The analyst needs to nurture relationships with their key customers, to understand their requirements and priorities - this works both ways and the customer must recognise their role in engaging and providing direction.
- **Collection.** That direction feeds into collecting relevant information and data, whether from open or secret sources. The analyst's relationships with collectors must be strong, understanding the strengths and weaknesses of diverse information types whilst keeping an open mind about what could contribute to their analysis.
- **Processing/analysis.** It's only at this point in the cycle that the analyst begins to do what many might regard as their 'proper' work, analysing the range of material in front of them, drawing on their training, expertise and analytical tools to try to manage complex, ambiguous and often deliberately misleading data to form an assessment that meets a customer's requirement.
- **Dissemination.** An assessment has no value if it does not reach the customer in a timely manner and in a format and classification they can use. The analyst needs to ensure it arrives, seek feedback and then start the cycle all over again.

But what do today's additional challenges look like? They can take a variety of forms which can be broadly summarised in the following four categories:

- **Information overload –** more than at any time in the past, the internet and social media means that analysts are often drowning in massive volumes of information from a wide variety of sources. Processing, organising and analysing this vast quantity of data is time-consuming and can leave the analyst feeling overwhelmed.
- **Emerging Technologies and Methods –** the very technology that can help to overcome that information overload can itself be a barrier to the analyst. A lack of familiarity, or trust, in technologies and tools can be off-putting. There remains a risk that they fall back on a limited range of familiar techniques, actively avoiding the potential offered by information from other sources and technologies. Technology developers must incorporate ways of training, building trust and explaining outputs to assist experienced analysts.
- **Collaboration –** tried and trusted sources may themselves sit on highly classified platforms with limited or no ability to join up with unclassified data, itself sitting on a myriad of disjointed IT systems. The enabling of joint working and sharing of information is key to effective analysis.
- **Communication –** not just between analysts, but with customers who need to receive the output in the required form. That often means the ability to generate at, or downgrade insights to, lower levels of classification.

The challenges faced by today's intelligence analysts include those they have had to tackle for generations: fusing diverse data, overcoming biases, dealing with ambiguity and delivering timely and accurate assessments to support decision-making in an ever-changing landscape. But with this now overlaid with the challenges of an interconnected world generating data on a vast scale and simultaneously, the need to adapt and grapple with new tools, including the very technology that might help manage that problem is clear. AI is one of those tools; the fact that elements of this article have been written with the assistance of ChatGPT, speeding up its development and losing none of the message, reflects technology developments that analysts must embrace not ignore.

Having highlighted that analysts face both enduring and new challenges, I believe that developments in technology are most likely to change and shape the analyst's future environment. Addressing this the UK's Chief of Defence Intelligence, Adrian Bird, described in a speech last year 'the development of a data analytics ecosystem, which is able to ingest and store data from a variety of sources and to apply innovative data analytics and visualisation techniques. It should also have the necessary processing and algorithmic capability to support the automation of the intelligence requirements and processing cycle and of our collection management capabilities.'

What does such aspirational language mean for the intelligence analyst in practice? A look at its future impact on aspects of the intelligence cycle might see something like the following:

- **Prioritisation & Direction.** An automated requirements and priorities process that operates across all classifications and domains, is responsive to formal inputted lists of requirements whilst being able to respond intuitively to an analyst's searches and drafts to identify material that might be relevant. For the analyst, this means less work to describe priorities and the ability to rely on constant, automated searching and prioritisation.
- **Collection.** Through automated prioritisation, a system that can search across vast amounts of data at different classifications and deliver a relevant, tailored service to the analyst – reducing the need for analysts to do that searching themselves.
- **Dissemination.** Automation could lead to machines developing a much better understanding of the requirements of customers, being able to distribute automatically and suggest how a piece of analysis might be tweaked to allow sharing with allies and partners.

All these tasks are essential parts of the intelligence process and offer opportunities for automating repetitive actions and removing time-sapping burdens, doing them more quickly, accurately and in more depth. These tasks may seem obvious, but the difficulty of achieving worthwhile automation in the often-subjective world of the intelligence analyst should not be underestimated.

But what about its impact on the core job of the analyst? It is here, in their role of processing and analysing data to produce an assessment, that Artificial Intelligence/ Machine Learning (AI/ML) offers huge opportunities. An AI/ML environment could support complex analytical tasks which go far beyond pattern or anomaly detection:

- **Automating structured analytical techniques** such as the generation of hypotheses, placing weight on available intelligence against those hypotheses, developing models and scenarios
- **Identifying key intelligence gaps** (and automatically feeding them back into the process of prioritisation and collection.)
- **Rapid development and experimentation** with new and novel analytical techniques, comparing results with existing tradecraft.
- **Creating and maintaining explicit links** between data inputs and analytical output, enabling intelligence products to become 'live' rather than snapshots in time.

These have application across all intelligence disciplines, including geospatial analysis – drawing, for example, on advanced image analysis techniques. As cognitive computing improves, technology is already helping analysts process and understand unstructured data such as text documents, reports and news articles more effectively. It can also assist in language translation, sentiment analysis and entity recognition, enabling analysts to extract relevant information from vast amounts of textual data. Auditability will remain key, noting recent experience of large language models to invent quotes and references, as will the human brain to 'sense check,' challenge, check for bias and add the human dimension to an enterprise that still, at its core, is about how adversaries think and might react.

But clever analysis is of no value if it does not reach the (usually very busy) customer in a timely manner and in a format that they can absorb readily. Automated dissemination will help but already the complexity and volume of data means that there is a premium on the ability to visualise and present data such that complex information can be presented more intuitively, focused around the user. Future customers will consume data and intelligence products in different ways, with the end customer making their choice of both format and timing; analysts must embrace tools that enable customers to develop their own style and content of reports while not losing the insights the analysts have created.

This is not just about smarter apps and IT, but also about culture change, for the collector, analyst and customer. And it needs to be treated as a major piece of culture change as well as business improvement, with all the disruptive effects that can entail. Finally, Government and industry will both need to keep their relationship on its toes too if they are going to successfully roll out and update software and systems that respond to this rapidly changing world. Getting it right will not just improve the efficiency of analysts, but potentially offer a revolution in the way that data is analysed and presented.

Annex A

PAUL RIMMER CBE

A former Senior Civil Servant in the Ministry of Defence and Deputy Chief of Defence Intelligence until May 2020, Paul Rimmer brings 37 years' experience of operating at the heart of the UK's national security business.

An experienced intelligence analyst and Head of Profession for intelligence analysts in Defence, he was a member of the Joint Intelligence Committee for nearly 13 years. He has also been a customer for intelligence in jobs ranging from Principal Private Secretary to two Defence Secretaries to being the senior civilian at the Permanent Joint Headquarters, Northwood. Paul is now an independent consultant, advising Leidos, as well as a Senior Adviser at the International Institute for Strategic Studies and a Visiting Professor at King's College, London.