

Outpacing Emerging Threats

Non-Traditional ISR Accelerates Time-to-Insight

Since the release of the National Defense Strategy in 2022 (NDS 2022), the Department of Defense (DoD) has pivoted to reflect the fast-evolving nature of the global threat environment.

Intelligence, Surveillance, and Reconnaissance (ISR) has long been the cornerstone of DoD's planning and response capabilities. But the current risk environment, with every domain contested and threats multiplying by the day, demands a fundamental rethink of what ISR can achieve.

Data captured from an array of sensors is the traditional foundation of ISR. But the monumental inrush of data is overwhelming the ability of systems and analysts to capture, clean, analyze, and recommend action based on that information. As NDS 2022 points out, hiring more people isn't viable; there aren't enough trained personnel – or hours in the day – to keep up.

While traditional ISR is still crucial to the mission, it is incomplete and by itself can't match the pace of new, fast-evolving threat information. Current technology is challenged to deliver speed at scale, and an expanding range of data from unconventional sources requires new tools and new approaches to analysis. Traditional ISR solutions also require long procurement cycles and add to infrastructure and staffing burdens.

These factors impede time-to-insight, but emerging threats won't wait. What's needed is a more nimble, complementary approach to intelligence gathering and analysis – one that uses non-traditional sources to accelerate capturing, understanding, and sharing relevant insights all the way to the tactical edge.

Non-Traditional ISR

The idea of non-traditional ISR (NTISR) began during Operation Iraqi Freedom, when Air Force fighter pilots used their targeting sensors for reconnaissance. NTISR came to mean capturing data from sources that had other intended purposes.

Since then, that definition has been expanded. While traditional ISR depends on interconnected hardware sensors to feed systems with data for analysis, NTISR is more focused on the data itself as well as the cloud or hybrid platforms used to store, analyze, and share information. In essence, data becomes the sensor. Humans still play a crucial role in the process, but NTISR relies heavily on automation for enhanced data processing, exploitation and dissemination.

More Than Data; Context.

There's another key factor that makes NTISR different – and essential to understanding the rapidly-changing risk environment. Relevant data is no longer tied to hardware and electronic sensors, but to non-classified sources, including:

- Publicly available information (PAI). Websites, social media, video, news, and more create a flood of data across the open, deep, and dark webs, which could provide clues to impending threats.
- Commercially available information (CAI). Vetted, acquired databases that have proven to be incredibly useful for spotting threat actors and activity early enough to mount an effective response

What this data can provide, with uncanny accuracy and speed, is context. Sentiment and intent can be related to words and actions, making potential threats much more obvious. It isn't just a matter of what's being said; it's crucial to consider if a person or group has the means and motivation to carry out that threat. The context of the data is just as important as the individual details being examined.

The Open-Source Advantage

Open-source information changes the landscape of what is available for analysis, how it is procured, and how quickly it can be delivered. Not only does the information need to be fresh, it needs to be made available to decision makers to provide a broader perspective. Because this data is constantly evolving, PAI and CAI can provide more current views of an emerging situation. Decision makers can now augment traditional ISR sources with this additional realm of information.

Working with trusted data partners ensures accuracy and security, and because the information is non-classified, it can be stored, processed, and shared over non-classified networks. This capability delivers comprehensive, up-to-the-moment insights when and wherever needed.

Building Blocks of an Effective NTISR Solution

There are four additional components required to make information actionable at the point and time of need – all related to ePED.

1. PEOPLE

While automation is crucial to dealing with the scale of raw data, it's humans who can derive insights from the analysis. In other words, skilled personnel, empowered by technology, are essential to making sense of – and use of – risk-related information.

The people of SMX bring a thorough understanding of the methodologies and tradecraft to ensure the outcomes meet the moment. We bring diverse perspectives to every engagement; our approach can bring in people from many relevant disciplines, all trained in our methods and techniques.

2. OPERATIONAL SUPPORT

To create a framework that delivers speed at scale, new approaches to both technology and service delivery should be adopted. Automating as many processes as possible – via cloud-based or hybrid platforms – enables users to leverage huge amounts of data instead of being overwhelmed by it. Just as important, automation powers persistent oversight of the data, so that business rules or geographical “watch boxes” can trigger both alerts and responses without intervention.

Traditional ISR has been dependent on human analysts, which puts the burden of staffing those positions on the government or their contractors. SMX's proven Contractor Owned, Contractor Operated (COCO) approach removes this limitation, and also enables the use of secure, compliant non-classified data and systems. The COCO model minimizes the operational burden on-site, and ensures surge capabilities to augment core government resources.

3. VISUALIZATION

Turning PAI and CAI into useful insights once again relates to context; how the information is structured and presented is crucial to understanding how it can impact the mission. Automating tasks using AI and ML can uncover and connect clues hidden in the data, speeding the discovery of time-sensitive information. Insights can then be reported in ways that are most useful to human analysts and decision makers.

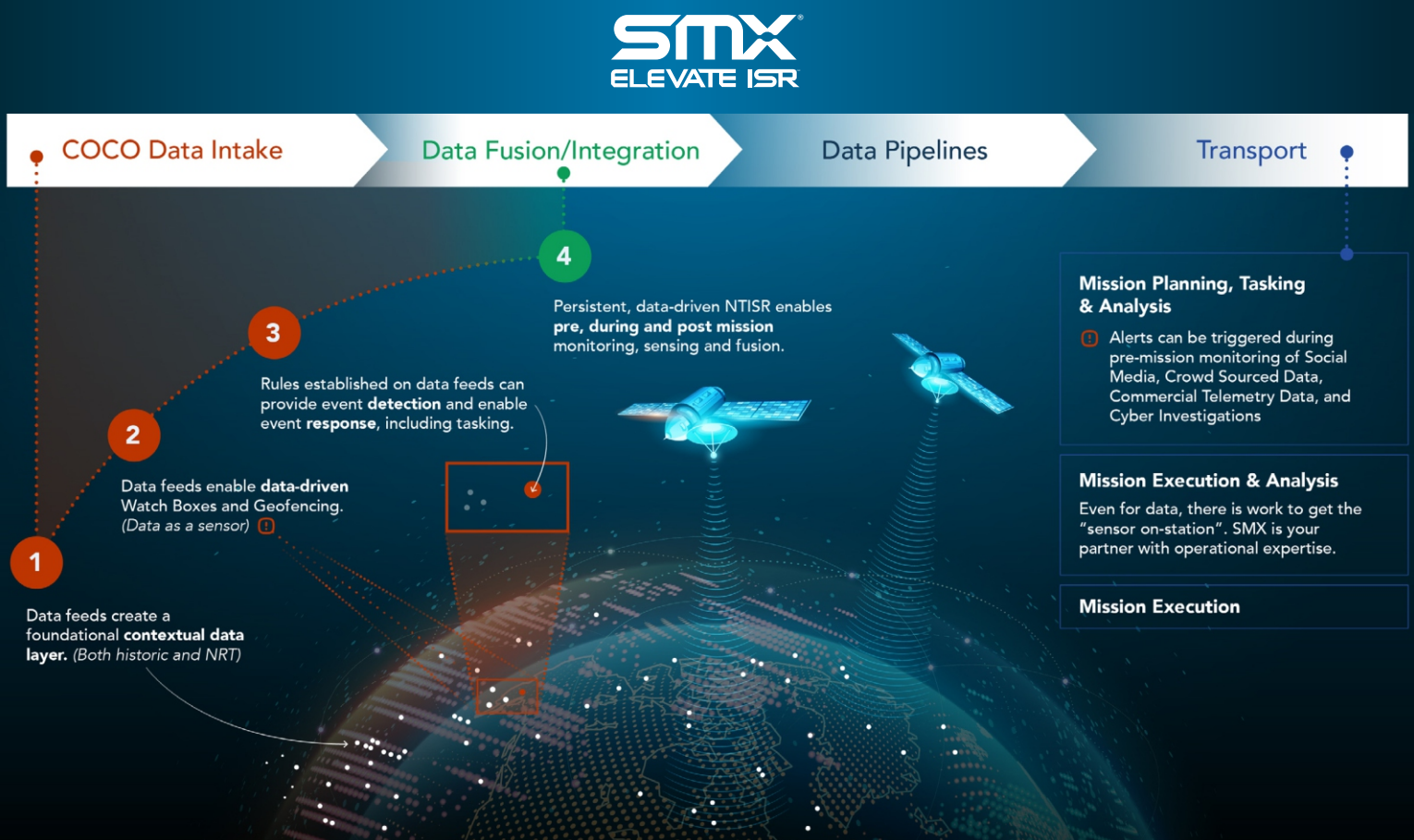
4. FLEXIBILITY

The final element is creating an environment that adapts to meet fast-changing conditions. A modular architecture allows components of an NTISR backbone to be snapped in and out as needed; these components include not just technologies but industry vendors. For organizations, this helps ensure that solutions can evolve to meet the moment.

Also essential for flexibility: the agility of a proven partner, who can often deliver the right capabilities faster and more efficiently than in-house-only solutions. Rather than limit the ability to proactively change, SMX's COCO model employs an as-a-Service (aaS) approach enabling new technologies and improved workflows to be swapped and deployed on demand. Fully compliant and secure, it's a model proven to deliver outcomes that achieve mission goals quickly and cost-effectively.

Seamlessly Linking All the Elements: Technology, Data, Expertise

While some industry partners can deliver pieces of the solution, a complete end-to-end capability has been elusive. SMX's Elevate ISR platform is designed to achieve that goal, automating processes and outcomes at mission speed – and extracting the greatest value from open source data. It fuses technology, data, and human expertise into a cohesive outcome focused solution tailored to your mission requirements and closing your specific information and intelligence gaps.



SMX curates numerous sources of data – including commercial satellites, social media, as well as other PAI and CAI – at a non-classified level, via secure, fully-compliant channels. Capturing, analyzing, and visualizing this open-source data provides the context needed to understand patterns of behavior, sentiment, and intent. This in turn drives insights as to the level – and imminence – of threats or disruptions.

To further support the mission, Elevate ISR integrates nonstandard data sources – from academia or partner nations, for example – and provides a fuller, more nuanced view of a situation while augmenting traditional ISR. Our non-classified products and secure information ecosystem also enable immediate sharing of information with partner nations.

Elevate ISR enables persistent views of the data, which in turn supports pre- and post-mission monitoring, sensing, and fusion. SMX's long history in the traditional ISR space enables us to integrate our traditional contractor owned ISR assets, giving additional visibility to the event landscape. And because transparency is a foundational element of our solution, there's no proprietary lock-in or commitment, only transparent partnerships.

The SMX solution was developed in real-world situations, working with our customers in an agile process loop. This ensures that our cloud-based platform and its capabilities meet requirements for speed, scalability, compliance, and the ability to augment traditional ISR platforms, including secure connections to classified systems as needed.

The Crucial Success Factor

Commercial solutions can accelerate the implementation of new, more effective platforms and processes for ISR; outside expertise in developing and integrating those solutions becomes a force multiplier. The right supplier brings key partnerships to every engagement, including premier alliances with the hyperscaler cloud providers as well as top industry partnership in tools and applications.

Your industry partner needs an in-depth understanding of the specific environment, requirements, and real-world obstacles to progress. SMX is onsite with multiple COCOMs worldwide, working side-by-side with customers even in the most austere conditions. This gives our teams the knowledge that only comes from direct experience – identifying roadblocks and resolving challenges that could impede operations. It's a hallmark of SMX's long-standing commitment to mission success.

Elevate ISR combines traditional and NT-ISR and gives our clients the ability to spot risks long before they impact operations. Decision makers can now have a comprehensive view of potential threats, based on near real-time information. Elevate ISR enables the speed, scale, and flexibility that empowers you to focus on mission outcomes.

