

Axellio SensorXpress

Extend Time-on-Target at the Widest Instantaneous Bandwidth for Your Intelligence, Surveillance, and Reconnaissance (ISR) and RF Systems

Increasingly demanding SIGINT missions create exponential volume and velocity of RF data across space, air, sea, ground, and in tactical environments that can easily overwhelm storage and analysis systems. SensorXpress™ enhances the performance of your existing analysis applications by simultaneously capturing, storing, and distributing RF data in an extremely small form factor.



Monitor broader electromagnetic spectrum in real-time and extend time-on-target

Current Situation	Adversary interaction monitoring requires real-time analysis of a continually expanding spectrum and increasingly complex signal environments. However, this overwhelms existing RF analysis systems, necessitating a reduction in the spectrum that the analysis systems can survey and analyze. Therefore, the analysis of this Radio Frequency (RF) data is rarely fully exploited.
SensorXpress Capabilities	<ul style="list-style-type: none"> • By connecting directly with the collection platforms or sensors, SensorXpress collects and buffers high incoming data streams at over 100 Gbps, simultaneously ingesting, storing, and distributing RF data. • Controlled and repeatable signal data distribution to multiple analysis applications for real-time analysis. • Storing captured RF data for hours or days to replay and re-analyze RF (e.g., raw I/Q, VITA49) data through your existing analysis applications via standard APIs.
Benefits	<ul style="list-style-type: none"> • Collect broader spectrum for better insight into your adversary activities. • Maximizes the capabilities of your existing analysis infrastructure by avoiding overload situations and distributing RF data at speeds your analysis applications can safely consume. • Perform repeated in-depth analysis as the data is stored and decoupled from the sensor. • Extend the useful life of existing RF/SIGINT infrastructure, maximizing its capabilities.

Record more spectrum for longer periods of time

Current Situation	Collecting and recording joint forces electronic signatures (e.g., own force monitoring) is essential to protect missions, lives, and equipment and to develop vital countermeasures. With an increasingly dense signal environment, this requires monitoring for extended periods of time for more comprehensive assessments. However, this increases the amount of collected RF data that needs to be analyzed and stored, often exceeding the available storage capacity of analysis systems.
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- SensorXpress Capabilities**
- No-loss capture of all data for high-quality results from multiple sensors at over 100 Gbps.
 - Expandable storage, from hours to months, utilizing commercial-off-the-shelf (COTS) NVMe SSD drives. For example, a 1U server can support over 700TB in storage. Long-term, off-box archived storage to extend capacity at reduced costs is also available.

- Benefits**
- Analyze a denser frequency spectrum over a longer time period for more accurate assessment and definition of countermeasures.
 - Extend the useful life of existing RF/SIGINT infrastructure while maximizing its capabilities.

Collect and store more spectrum data for post-mission analysis during forward tactical operations

Current Situation Storing more RF data for insightful, high-speed analysis is crucial but requires more powerful analysis and storage systems. This need often conflicts with the mobility demanded in forward tactical environments, where systems must be optimized for SWaP and delivered in rugged form factors.

- SensorXpress Capabilities**
- Flexible form factors including ruggedized hardware for custom, tactical configurations to meet your specific mission needs.
 - Expandable storage, from hours to days, and processing capacity via COTS hardware.
 - Replay and re-analyze captured RF data while controlling speed and content of data.

- Benefits**
- Customizable high-density SWaP form factors suitable for any mission.
 - Analyze a wider frequency spectrum over a longer period of time to maximize analysis via your existing RF applications.
 - Reliable and repeated replication of RF data for training, forensic analysis, and instrument validation.

Dense form factor for disconnected or non-tethered operation during forward tactical missions

Current Situation When unique edge-based requirements (e.g., tactical, concealment, low-SWaP) are critical to mission success, the ability to operate without data backhaul is essential, especially when these connections are too slow or unavailable. This requires a highly compact solution that does not limit either RF data storage or analysis capacity to maximize the intel that can be gathered.

- SensorXpress Capabilities**
- Flexible dense form factors tailored for everything from mobile operations to static data center deployments, all delivered on COTS hardware, with options to suit varying ingest rates and storage needs.
 - Custom tactical configurations to meet your specific mission needs.

- Benefits**
- Customizable high-density SWaP form factors suitable for any mission.
 - Operates autonomously without any network connectivity.

About Axellio

Axellio provides extreme high-performance, scalable, compact, economical, and simultaneous time-series data ingest, storage, and distribution solutions for the defense and intelligence community at speeds exceeding 100 Gbps for cybersecurity and for intelligence, surveillance, and reconnaissance (ISR) applications.

Contact us at: contactus@axellio.com or +1 (719) 309-3370