ARKA

TOTALGROUND™

Future-Proof Ground Solutions: **Rapid Deployment. Open Architectures. Seamless Scaling. Continuous Evolution.**

OVERVIEW

Satellite ground operations are evolving and advancing at ever faster rates. ARKA recognized this challenge over 15 years ago, so we developed a technology that allows us to quickly grow and develop alongside the industry and our trusted partners. We call this technology TotalGround™. TotalGround combines our software-based SOFTLINK® architecture, and general purpose hardware to build a custom, full ground station solution. TotalGround does not contain untested or green technology; we understand the importance of flexible and reliable software-driven application development that is built on tested, stable code with minimal hardware footprint. The end result is a solution that is dependable, operationally proven, and purpose-built to tackle today's many digital ground modernization challenges.

THE BENEFITS TO THE TOTALGROUND SOLUTION

Custom, Scalable, Flexible Solution

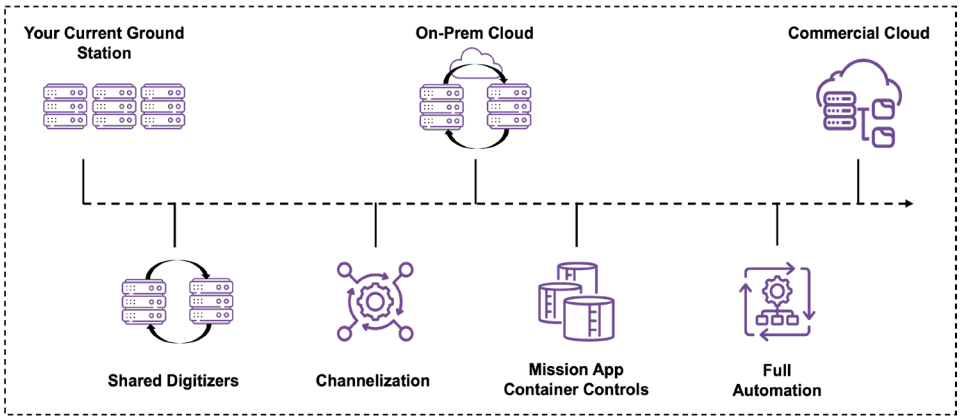
By leveraging a virtualized, adaptive ground system concept, traditional ground processing is replaced with software systems and services / microservices. The software systems can be standard or customized for your system and easily scaled for your mission needs.

Remove and Reduce Old and Niche Hardware

With a software-based solution, you can to move your mission's intelligence from expensive, discrete equipment to general purpose servers. This reduces your overall cost of ownership and lowers the risk of operational disruptions.

Move from Capital Expenditures (CAPEX) to Operating Expenses (OPEX)

Transform the way your company operates and realize cost advantages by reducing the expensive, day-to-day upgrades and maintenance your assets require. Instead, invest in the overall operation of a dynamic, multi-functional system.



Evolve Your Current Ground Station Architecture Over Time with ARKA's Flexible and Adaptable TotalGround Solution

TOTALGROUND CAPABILITIES

Our TotalGround solution is extremely mature and flexible—our capabilities are ready for deployment, and we also specialize in custom capabilities that are required for your important mission. At ARKA, any or all of these capabilities can be included in your solution:

FRAME SYNCING AND OTHER DIGITAL DATA PROCESSING

TotalGround contains a suite of modular software applications that perform at real-time speeds the telemetry functions often executed in proprietary hardware/firmware (e.g., bit synchronization, frame synchronization, and decommutation).

DIGITIZERS

Our systems enable real-time processing, rapid access to data, incredible scalability, and advantageous usage costs. We facilitate dynamic creation of analysis containers through our SOFTLINK architecture and our latest wideband digitizer technology, which can digitize up to 8 concurrent physical inputs at 1 Gsps.

SIGNAL MONITORING

Our signal monitoring solution offers compatibility and interoperability with an open-architecture sensor framework that uses adaptive monitoring processes to improve control of systems and processing of data.

EDGE DATA PROCESSING

We help distill the technical challenges of ingesting RF at the edge (ground stations, telemetry receivers, test equipment, etc.) and distribute and process the data in a software-based environment.

TELEMETRY PROCESSING

ARKA's command and telemetry solution operates to relay commands to devices and aggregate device telemetry into packets for dissemination. Our suite of modular software applications performs the telemetry functions often performed in proprietary hardware/firmware (e.g., bit synchronization, frame synchronization, and decommutation) at real-time speeds.

DIFI DIGIF RECEIVING / TRANSMITTING AND CHANNELIZATION

Our software-based TotalGround solution transmits and receives wideband RF inputs that are transmitted to narrowband via digital distribution. We leverage minimal hardware and firmware combined with efficient software created capabilities to successfully accomplish a full data capture and transmit.

CONTAINER MANAGEMENT

We can place our software-defined radio in a container and deploy it to any Cloud environment. ARKA develops containers based on exact requirements.

SOFTWARE RADIOS (TT&C AND PAYLOAD PROCESSING)

Our TotalGround ground architecture supports software-defined modem systems capable of proven, reliable TT&C and payload processing with a consolidated hardware footprint.

WAN-EX

ARKA's WAN-EX data transfer protocol manages and improves data transport of continuous data streams across wide area networks to reliably move high-rate data through your ground architecture.

Reach out to the ARKA team for more information on our TotalGround capabilities and collaborate with us on a tailored solution to meet your mission needs.

FOR ADDITIONAL INFORMATION:

2315 Briargate Pkwy., Suite 100
Colorado Springs, CO 80920 USA
Tel: 719-522-2800 | Fax: 719-522-2810
arka-group-technologies www.arka.org

ARKA