UNLOCKING OPPORTUNITIES FROM ABOVE
WHO WE ARE

• Leading Telecom Operator in the MENA region that has successfully launched a corporate entity focusing on the delivery of Drone Powered Solutions.
• Pioneering digital innovation across all Zain footprint.
• Strong brand recognition across the region.
• Extensive Market and Geographical Reach.

EXPERTISE

• Solid in-house expertise in drone technology emerging from the engagement of international experts in drone powered solutions.
• Unparalleled knowledge of the regional market.
• Sound relationships with all regional governmental entities.
• Experienced pilots and dedicated Compliance and Safety officers.
• Vast capabilities in key areas of collecting, transferring, storing and processing large volumes of data, all relevant to delivering Drone solutions.

WHAT WE DO

Drone as a Service (DaaS)

We offer a diversified fleet of industrial drones supported by applications that have the required capabilities to implement bespoke drone solutions and conduct advanced data analytics for governments and enterprises.

Through Drone Powered Solutions, we unlock opportunities for several industries to fast-track growth and exploit the Internet of Things (IoT) in an efficient, safe and agile environment.

“ONE STOP SHOP” FOR DRONE POWERED SOLUTIONS

INFRATESTRUCTURE

• Reliable connectivity with extensive network of towers (+22,000) across the region (4G/5G).
• Mature cloud infrastructure.
• Unrivalled level of investment in technology and equipment.
• System integration and data analytics.
• Multi-redundant safety systems.

INTEGRATED SERVICES

A range of complementary services and integrated reports including: fleet management, control rooms, Machine to Machine (M2M), managed services and more.
By operating drones beyond the line of sight without entering the inspected infrastructure, the safety of your workers is preserved.

FASTER
Drones are deployed to facilitate visual inspection promptly without shutdowns. Performing an entire inspection is no longer a matter of days but hours.

CHEAPER
With its ability to navigate in 3D in the most complex and dangerous spaces, rope access, sky climbers, cranes or helicopters are no longer needed to perform inspections.

BETTER DATA
Drone data provides much higher quality of inspection than any traditional methods used. We show significant improvements in quality over helicopter and land surveying methods.
The MENA region will embrace drone powered solutions.

Drone technology is gaining maturity, growing exponentially across Europe & US.

Drone services will support many businesses and government entities across the MENA region.

“Drones overall will be more impactful than I think people recognize, in positive ways to help society.”

BILL GATES

“It’s time to understand the disruptive power of this platform economy and develop a strategy to exploit it.”

HARVARD BUSINESS REVIEW

Total number of drones across Europe & the US (Europe and US) (000’s 2013-2022)

2017-2022 CAGR: 33%

Source: Gartner, Single European Sky ATM (SESAR), Federal Aviation Administration (FAA) of the United States
DRONE AS A SERVICE IMPLEMENTATION

Stage 1: Planning
- Client Agreement
- Site Inspection
- Fleet selection
- Risk Assessment

Stage 2: Authority Approval
- Application filing
- Obtain permission

Stage 3: Data Collection
- Team Mobilization
- Pre-Flight Procedures
- Drone flight

Stage 4: Processing
- Analyzing Data
- Quality Assurance

Stage 5: Delivery
- Client Meeting
- Results & Recommendations

OFFERING MULTIPLE SOLUTIONS ACROSS CORE INDUSTRIES

- Power lines and substations
- Surveillance
- Oil and Gas
- Pipeline Monitoring
- Solar panels
- Surveying
- Utilities
- Cell tower
- Border Security
- Construction
- Emergency Management
- 3D Mapping
- Progress Monitoring
- Inspection
- Power Plant
- Infrastructure
### DRONE AS A SERVICE (DaaS) IN: INFRASTRUCTURE & UTILITY PROJECTS

#### KEY COMMERCIAL APPLICATIONS

<table>
<thead>
<tr>
<th>CAPITAL PROJECTS MONITORING</th>
<th>ASSET MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gathering aerial image data concerning work advancement including concrete work completion, volume, areas covered, mobilization rates, etc.</td>
<td>Assembling high-resolution images of assets &amp; process them for invaluable insights.</td>
</tr>
<tr>
<td>Assessing image data to evaluate compliance with original designs.</td>
<td></td>
</tr>
</tbody>
</table>

#### BENEFITS

- **Pre-construction site surveying via drones**
  - 35% survey budget reduction
  - 6 times faster completion.

- **Construction sites monitoring via drones**
  - 91% decrease in life threatening accidents.

- **Monitoring of violations of environment/special zones**
  - 52% reduction of penalties.

- **Building & infrastructure inspection via drones**
  - 70% saving in costs and inspection time.

- **Property and hard to reach areas inspection via drones**
  - 100h > 2h reduction in surveying time of 12 acres, in addition to safety hazards reduction.

- **Building surveying via drones instead of scaffolding or elevated platforms**
  - 70% cost reduction.

### INCIDENTS AND EMERGENCY SITUATIONS

- **Live aerial coverage for surveying and monitoring operational areas during incidents and emergency situations, in case of natural disasters, fires, car accidents, search & rescue and ambulance operations, etc.**
- **Streamed directly to control rooms to support decision-making processes.**
- **Equipped with thermal cameras enabling effective examination of the area.**

### SAFETY AND SECURITY FOR MASS EVENTS

- **Detailed 3D mapping (e.g. football matches, National Day outdoor festivities, etc.) during the event preparation.**
- **Fully cartometric geospatial data with resolution of up to 1cm.**

### BENEFITS FOR AUTHORITIES AND DECISION MAKERS

- Decreased cost of emergency operations and increased safety of first responders due to more effective and streamlined management.
- Effective and exact localization of victims and shortened time to reach them.
- Faster response.
- Access to difficult-to-reach locations.
- Precise traffic and evacuation routes.
- Increased safety and security during mass events due to enhanced risk management and planning.
- Reduced personal injury.
- Positive community perception.
**DaaS IN: OIL & GAS OPERATIONS**

**KEY COMMERCIAL APPLICATIONS**

**SURVEYING/ MAPPING**
- Precise and measurable photogrammetric products to provide insights about examined locations.

**CAPITAL PROJECTS MONITORING**
- Image capture and analysis to extract project management insights, such as work advancement, compliance with safety policies, accuracy of development, etc.

**ASSET MANAGEMENT**
- Automated monitoring and inspection of assets and inventory management for remote locations and large volumes, while minimizing accidents, human-error and costs.

**SURVEILLANCE**
- Real-time surveillance and monitoring of behavior, activities or changing conditions at public gatherings, areas of interest or business operations.

**BENEFITS**
- Faster data acquisition for larger project.
- Rich point cloud.
- Measurable data (volume, area, distance).
- Minimize project delays.
- Improve compliance with original design.
- Provide impartial information.
- Enable low cost inspections and drive predictive maintenance.
- Enable low cost inventory tracking.
- Enable compatible geospatial digital assets register.
- Lower cost of emergency and security operations.
- Improved safety of first respondents.
- Faster response time.
- Safer facilities and less breaches.

---

**DaaS IN: BORDER SECURITY**

**KEY SURVEILLANCE APPLICATIONS**

**HIGH-ALTITUDE OPERATIONS ALONG THE BORDER**
- Aerial control over state borders by providing high-resolution image data from high-altitude fixed-wing drones.
- Sensors providing visual and thermal video footage for traffic and event identification.

**AUTOMATED DRONE SYSTEMS FOR BORDER CROSSINGS**
- Autonomous systems consisting of a drone, charging platform and software installed near the border crossing.
- Systems operated remotely and enable autonomous threat response, scheduled autonomous patrols as well as manual surveillance missions.

**BENEFITS**
- Missions covering vast areas.
- Identification of traffic in remote areas — automatic movement detection.
- Objects tracking.
- Providing information for successful tactical decisions on the ground.
- Faster data acquisition for larger project.
- Rich point cloud.
- Measurable data (volume, area, distance).
- Minimize project delays.
- Improve compliance with original design.
- Provide impartial information.
- Enable low cost inspections and drive predictive maintenance.
- Enable low cost inventory tracking.
- Enable compatible geospatial digital assets register.
- Lower cost of emergency and security operations.
- Improved safety of first respondents.
- Faster response time.
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**DATA STORAGE**

- Integrated secure storage of the data in the Zain cloud.

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**DATA STREAMING AND ANALYTICS**

- Live and high-resolution data streaming from different types of sensors — visual and thermal, to monitor traffic and unauthorized activities.
- Providing and managing data analytics software.
- Randomized or manual missions for potential offenders confusion.
- Multiple drones operating simultaneously in different locations.
Supporting Government and Security Forces against growing threats, by identifying and neutralizing unauthorized drones that are threatening safety, security and privacy.

Detection: Anti-Drone multi-sensor solutions detect common drone types using Short Range Radar, and intercept radio frequency transmissions by infrared and optical cameras.

Analysis: Anti-Drone compares recorded information to a database of references and signatures. If it finds a match, the system issues an alert and records identifying information about the third-party drone.

Identification: Increased detection accuracy, and decreased rate of false-alarms, by layering sensor technologies for detection in a single zone. Additionally, infrared and optical cameras allow security teams to visually confirm a drone presence.

Alerts: Instant alerts using a variety of methods: SMS, email, cloud-based GUI or through an integration with existing video or incident management systems, integrate into the security system.

Countermeasures: Jamming the link between the drone and the third-party controller (or optionally, the drone’s GNSS navigation capability), which generally results in the drone either landing vertically on the spot in a controlled manner, or return back to the starting point. This countermeasure is subject to jamming laws applicable to the user.
### Industries

<table>
<thead>
<tr>
<th>Services</th>
<th>Surveying/Mapping</th>
<th>Investment supervision</th>
<th>Asset/Inventory Management</th>
<th>Maintenance monitoring</th>
<th>Surveillance</th>
<th>Video coverage</th>
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<tr>
<td>Oil &amp; Gas</td>
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</tbody>
</table>

- Commercial use

### WE OFFER DRONE POWERED SOLUTIONS AND APPLICATIONS FOR VARIOUS INDUSTRIES

- Oil & Gas Flare Stack Inspection Offshore
- Oil & Gas Benzema Column Fire-proof Structure
- Storage Tank Inspection Internal External
- BENZENA COLUMN FIRE-PROOF STRUCTURE
- OHL VISUAL INSPECTION OHL THERMAL INSPECTION CORONA DETECTION LIDAR SCANNING SOLAR PLANT INSPECTION
- Precise Agriculture Plant Health Analysis
- Plant Counting
- Automated Seeding
- Border Security
- Aerial Surveillance
- Anti Drone Systems

### OUR SERVICES

- Construction Progress Monitoring Surveying, Mapping 3D Reconstruction
- Pipeline Monitoring Underwater Pipeline Inspection UT Measurements
- Power Plant Inspection Chimney Stack Gas Recirculation Unit Leak Detection
- Surveillance, Mapping 3D Reconstruction
ABOUT ZAIN GROUP

- Zain Group is a pioneering telecom operator and digital innovator across the Middle East and Africa with a talented workforce of over 6,000. Providing mobile voice and data services to over 49 million individual and business customers in Kuwait, Bahrain, Iraq, Jordan, Saudi Arabia, South Sudan and Sudan. Zain also manages one of the mobile operators (touch) in Lebanon, and has an equity stake in Moroccan telecom operator INWI.

- Since its establishment in 1983, Zain has distinguished itself over the years with a strong and trusted brand, a large network of technology partners, a solid financial performance and robust technology capabilities. The group’s revenue across markets reached USD 4.4 billion in 2018, with market capitalization in Kuwait over USD 6.7 billion.

- Zain is uniquely positioned to utilize its solid capabilities in emerging drone markets. We plan on becoming a strategic partner in fast developing commercial unmanned aerial Vehicles (UAVs) market.

ZAIN DRONE TO UNDERTAKE TOWER INSPECTION AND MAINTENANCE SERVICES FOR ZAIN KUWAIT

Automation will drive efficiencies with up to 50% in cost savings.

In December 2018, Zain Kuwait announced entering an agreement with Zain Drone to undertake inspections of its tower infrastructure. The agreement saw the operator become one of the first in the MENA region to deploy drone technology to inspect and maintain its cell tower infrastructure, demonstrating the operator’s drive to become a more agile and cost-efficient provider. The agreement also represents the first commercial deal for Zain Drone.

In a growing trend globally, progressive mobile operators have identified the need to constantly monitor their towers to ensure hassle-free relay of signals between devices and infrastructure. Drone cell tower inspection reduces costs and the time taken to detect flaws considerably, as well as providing companies with complete details of defects through visual imagery, making it easier to develop lasting solutions for the problems that are identified.

Automation will play a key role in the cell tower inspection industry where automated workflows have proven their potential by helping cut inspection costs by as much as 50%. Drone hardware and software technologies have developed to the level that the entire inspection process can be streamlined and automated.

The valuable benefits of drone technology in this instance includes, higher-resolution visual inspections than ground-based ones; a significant reduction in man hours and costs; the ability to safely assess the condition and alignment of all components of cell towers with inspections done from a safe distance; an increase in efficiency due to data accuracy, live streaming and zoom or thermal capabilities; and the lack of network downtime as cell towers remain functional during inspection.
# The World of Zain

<table>
<thead>
<tr>
<th>Country</th>
<th>Ownership</th>
<th>Revenues</th>
<th>Customers</th>
<th>Prepaid</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kuwait</strong></td>
<td>100% Ownership</td>
<td>$1.1 B</td>
<td>2.6 m</td>
<td>64%</td>
<td>37%</td>
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<tr>
<td><strong>Iraq</strong></td>
<td>76% Ownership</td>
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<td>16 m</td>
<td>98%</td>
<td>44%</td>
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<tr>
<td><strong>Sudan</strong></td>
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<td>$316 m</td>
<td>14.6 m</td>
<td>98%</td>
<td>48%</td>
</tr>
<tr>
<td><strong>Saudi Arabia</strong></td>
<td>37.05% Ownership</td>
<td>$2.0 B</td>
<td>8.1 m</td>
<td>52%</td>
<td></td>
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<tr>
<td><strong>South Sudan</strong></td>
<td>100% Ownership</td>
<td>$494 m</td>
<td>3.7 m</td>
<td>78%</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Jordan</strong></td>
<td>96.52% Ownership</td>
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<td>3.7 m</td>
<td>78%</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Bahrain</strong></td>
<td>55.4% Ownership</td>
<td>$176 m</td>
<td>668 k</td>
<td>63%</td>
<td></td>
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<tr>
<td><strong>Morocco</strong></td>
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<td>98%</td>
<td>48%</td>
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<tr>
<td><strong>Lebanon</strong></td>
<td>Management Contract (MC)</td>
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Drone@zain.com | drone.zain.com