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RESEARCH CAPABILITIES

Declass Review by NIMA/DOD

STATINTL

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RESEARCH CAPABILITIES

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BACKGROUND

[redacted] is a new organization specializing initially in Reconnaissance Data Acquisition, Reconnaissance Data Analysis, and Electronic Warfare.

STATINTL Certain analysts now on the [redacted] staff were instrumental in designing the Photo Intelligence components of an advanced satellite reconnaissance system and a multi-sensor carrier-based subsystem. The use of a central data handling facility with new-design viewing and display stations was basic to both. During the design of these subsystems, which stressed the value and importance of real-time data extraction and reporting, several new concepts were developed.

Some of the analysts who worked on those projects are now members of a selected team of specialists, concentrating on the image analysis phase of another classified satellite reconnaissance program.

STATINTL One of [redacted] "in-house" research efforts is aimed at putting the military intelligence-reconnaissance problem into proper perspective, and locating critical "soft spots" that merit priority research and development. Emphasis on these areas has given the company a new awareness of the critical role of the image interpreter as it relates to his training, background, working environment, new multi-sensor image records, analysis equipment, reference materials, operational intelligence requirements, and performance objectives.

In the course of this investigation, [redacted] has formulated a number of problem areas and directions for courses of action, which include developing techniques, procedures, tools, devices, or entire subsystems essential to achieving the goal of an all-weather, around-the-clock reconnaissance and surveillance capability. STATINTL

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STAFF CAPABILITY

[redacted] technical staff is uniquely qualified to work in this field because every member has a broad background of military training and operational experience in addition to several years of direct investigative, design and development experience on various Intelligence-Reconnaissance and Electronic Countermeasure problems, components, subsystems and systems.

Military experience for the group ranges from intelligence, cartographic, and electronic operations at the working level to participating in the planning and execution of large-scale NATO and Inter-Service projects. Staff Research and Development experience includes design and development of techniques, tools, and materials for all phases of the operational Intelligence-Reconnaissance Cycle. Several of the larger and more recent projects involved equipment design criteria, component analysis, operator training and procedures, and determining systems information flow and storage.

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[redacted] senior analysts have extensive experience in direct research, analysis and production of intelligence materials for the U.S. Air Force, the Navy and other government agencies. Individuals have been active in panel discussions, preparation of professional papers and conducting studies of the feasibility and utilization of various techniques, procedures, and devices pertaining to Intelligence and Reconnaissance functions.

Included in the areas of experience, training, and background of the intelligence team are:

Operational Intelligence
Targeting; Tactical and Strategic
Military Reconnaissance Flying and Planning
Preparation of Photo Interpretation Keys and Training Manuals
Radar Analysis and Prediction
Infrared theory and analysis
Special weapons analysis selection, and targeting
Photographic Engineering
Photogrammetry
Meteorology
Air Intelligence
Atomic, Biological and Chemical Warfare
Survival; Escape and Evasion
Antisubmarine Warfare

(See also Appendix A, Biographical Sketches of [redacted] Staff) STATINTL

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In the field of electronic warfare, [redacted] personnel have major STATINTL contributions to the Armed Forces in such activities as analysis, design, and project supervision in countermeasures systems and equipment including:

- Electronic jamming systems
- Electronic deception systems
- Repeater jammers for use against missile guidance systems and fuses
- Design of RF interference analysis equipment
- Design and evaluation of RF suppression techniques
- Microwave absorber research projects
- Development of microwave absorbers on moving targets for radar camouflage
- Measurement of RF interference from electronic equipment

Antisubmarine Warfare is one of [redacted] major interests. As the submarine STATINTL becomes more of a strategic threat, the basic concepts of antisubmarine warfare must become also strategic in nature, and various strategic intelligence factors (for example, integrated command data conversion and display systems, broad-base target area probability studies, rapid communications systems) will merit further research.

Tactical antisubmarine warfare needs detection systems information integration and presentation; this situation will intensify as "stand off" detection and weapons utilization systems become more effective. [redacted] plans to explore STATINTL the vital human factors problem with advanced, as well as current operational equipment; to determine required operator capabilities as well as fatigue and diversion of attention limitations. Several specific research projects within these fields are already being drafted.

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FACILITIES

STATINTL [redacted] general office and work spaces are located at [redacted] A small electronics lab is set up in an adjoining building which is equipped to perform microwave development and engineering work. It has special anechoic facilities for making reflection measurements on radar targets.

AFFILIATE CAPABILITIES

The experience and background of the staff is augmented when appropriate by a group of consultants having broad technical backgrounds in such fields as

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operations research, psychology, and simulation techniques.

STATINTL In addition, [redacted] has established technical collaboration agreements with several other companies having strong engineering and/or manufacturing capabilities.

One of these organizations is considered among the foremost independent training device manufacturers in the airborne equipment field, with wide experience in electronic systems and small special-purpose computer engineering and production.

Another specializes in space problems, geodesy, and oceanography; their scientists are concerned with precise positioning, orientation, and range-testing of radio systems for air and marine navigation; geodetic control for aerial mapping; location of natural resources on land and under the sea; astronomic and gravity surveys; tracking guided missiles; harbor and waterway surveys, and exploratory submarine topographic surveys.

SUMMARY OF CAPABILITIES

STATINTL In short, [redacted] is currently equipped to analyze and solve a wide variety of problems in the Intelligence-Reconnaissance area, Electronic Warfare, Space Programs, Antisubmarine Warfare, and Civil Defense. When forces are joined with other companies a strong integrated capability becomes available for systems and component analysis, design, simulation, development, tests and productions.

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PUBLICATIONS

Members of the technical staff have participated in the preparation of the publications, reports and papers listed below:

PHOTO INTERPRETATION KEYS

A. SUBJECT KEYS

Transportation and Wire Communications
Military Installations
Military Aircraft of the World
Airfield Installations (1959 Revision)
Soviet Land-Based Radar
Soviet Shipboard Radar and Communications
Soviet Communications
Troop Communications
Troop Presence
Public Utilities
STATINTL [redacted] Antiaircraft Positions

B. REGIONAL KEYS

USSR
China
The Caucasus
Southeastern Europe
STATINTL [redacted]

TECHNICAL PAPERS

A Preferred Approach to the Photo Interpretation of Industry
P.I. Keys for the Air Intelligence Officer
Color Film in Military Photo Interpretation
An Application of Models and Stereo Photographs to Teaching Photography
Development of an Aerial Camera Pod
An Analysis of Rear Projection and Direct Viewing for Tactical Use
Visual Acquisition of Tactical Atomic Targets
Development of Rocket-Assisted Mortar Projectiles
An Analysis of Marine Corps Aerial Photographic Requirements

REPORTS

Photogrametric Design of 35mm and 70mm Stereo Cameras
Tactical Terrain Analysis by P. I.
An Antarctic Astronomic Control Method
An Analysis of Eye Fixation, Eye Movement and Visual Acuity Tests

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OTHER PUBLICATIONS

Elementary Optics for the Military
Photogrammetrist
Evaluation of P. I. Keys
The Marines Have Landed
(An Analysis of Future Operations)
Berdan's Sharpshooters
(An Historical Analysis of Reconnaissance)
Aerial Photography From Light Aircraft
Military Maps Simplified
The use of Aerial Photography in the
Determination of Trafficability in Arctic
Mountainous Terrain
Interference Studies, Investigation and Tests
to Develop Criteria for Minimizing Interference from Electric Arc Producing Devices
Reflection Characteristics of Varying Terrains
to Radar Signals

PATENTS

Photo Geometry Models (Patent No. 2,917,835)
A combination Film Package and Slide Viewer
(Patent No. 2,919,505)

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