CINBAD

AESA Multi-Target Test Range Radar

ELM-2086C

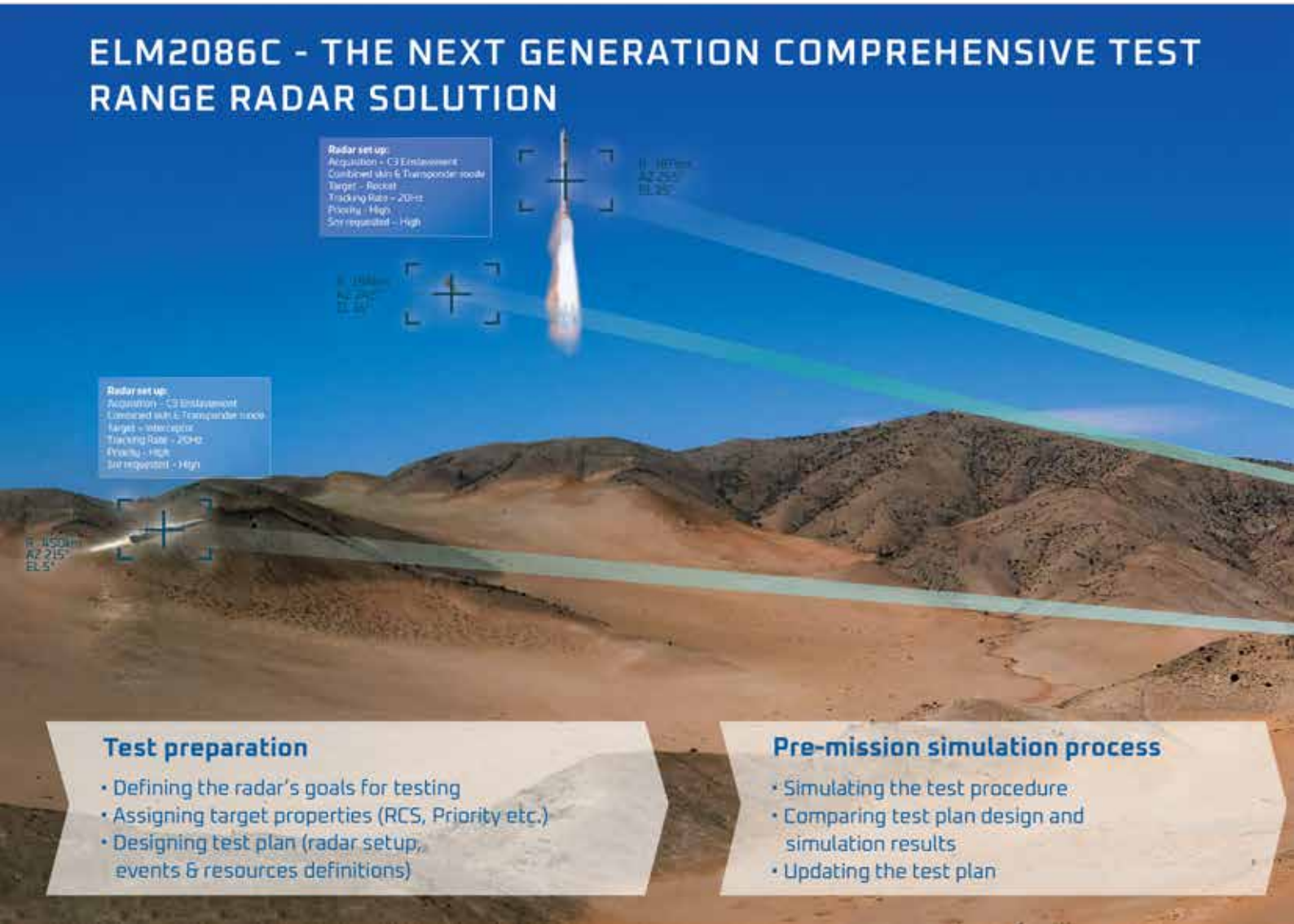
BACKGROUND

Military test ranges have traditionally comprised individual systems to test single aerial platforms. Today's battlespace is inundated with new aerial actors such as ballistic, cruise and air defense missiles, satellites, and fast and slow-flying stealthy platforms. These platforms can perform complex maneuvers, operate simultaneously, or team with each other.

For military planners and engineers, the shift from single-platform testing to complex, multi-platform/multi-target testing demands a paradigm change. Typical scenarios will involve simultaneous engagement of multiple targets, real-time autonomous acquisition of new targets, and handling different types of targets with small radar cross sections, dynamic properties and at a long distance. Test ranges try to cope with some of these new requirements by employing a large number of single-target radar systems resulting in high costs, more overhead and infrastructure required. Even then, these measures cannot fully support common test scenarios such as an unpredicted separation of one object into several objects or other changes in the test scenario.

ELTA – LONF LEGACY IN PRODUCING STATE-OF-ART RADARS

ELTA Systems has been a developer and manufacturer of advanced military radars and SIGINT solutions of all sizes and for all domains for over half a century. Based on this experience, ELTA has become an expert in developing advanced Instrumentation Radars with sales to customers worldwide. To meet the new challenges of modern Test Ranges, ELTA developed a multi-target Instrumentation Radar based on AESA technology called **CINBAD (ELM-2086C)**. CINBAD is based on ELTA's world-renowned Multi-Mission Radar (MMR)-ELM-2084 which is part of the Iron Dome Air Defense System.

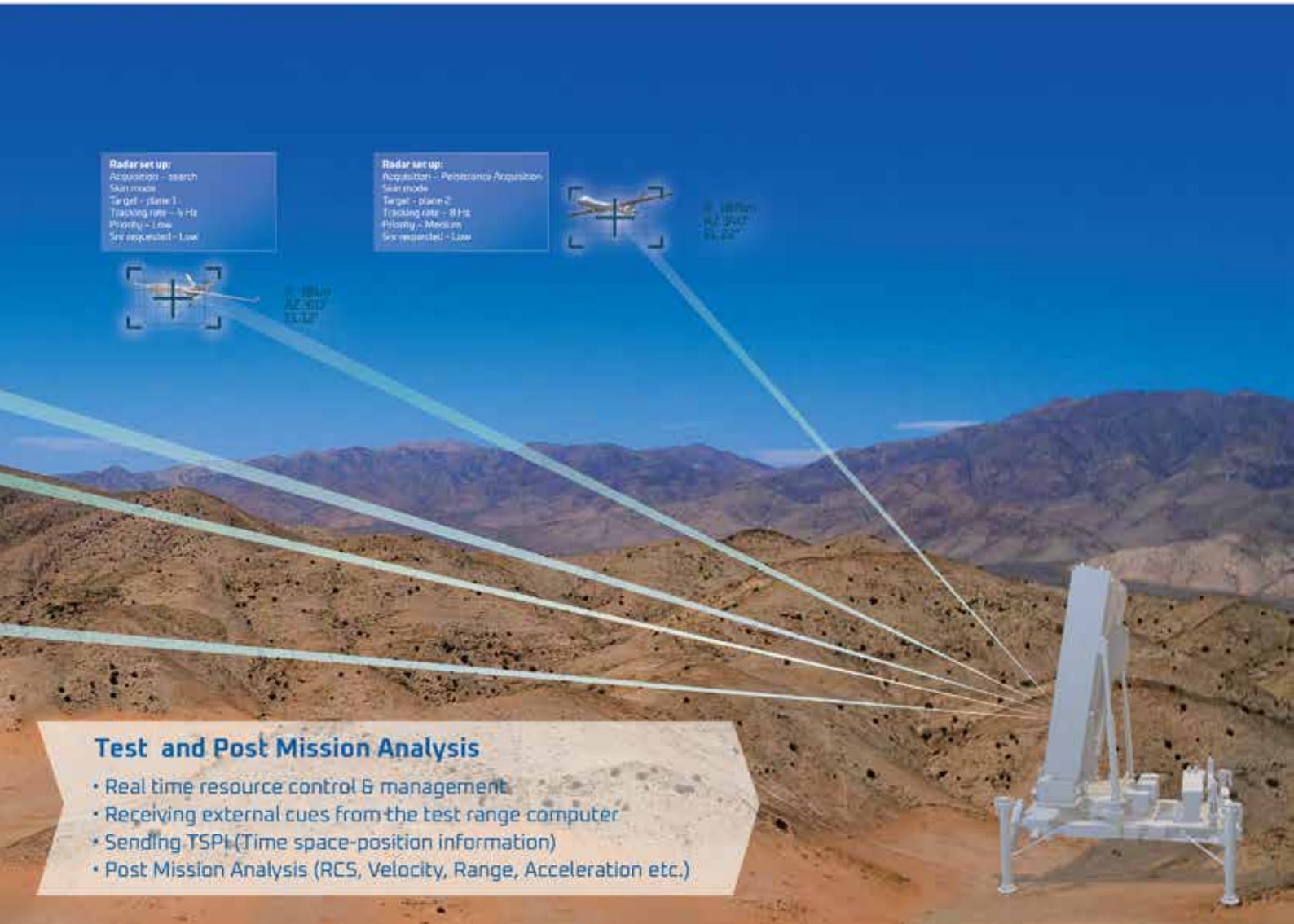


CINBAD OGGERS A RICH VARIETY OF FEATURES SUCH AS

- Independent test range capabilities: search, target identification & more
- Test preparation tools
- Transponder tracking capability (RCC-262/14 standard)
- Interface to external optics system
- Real time test management capability
- Mechanical Azimuth slewing capability
- Dynamic resources management (priorities, SNR, Rate etc.)
- Offline mission data analysis tool

TECHNICAL SPECIFICATIONS

Parameters	Small	Medium	Large
Max track range*	280 Km	400 km	470 km
Frequency		C- Band	
FOV Coverage		Az ±60° El ±40°	
Track Capacity (Test targets)		Up to 200 Targets	



Test and Post Mission Analysis

- Real time resource control & management
- Receiving external cues from the test range computer
- Sending TSPI (Time space-position information)
- Post Mission Analysis (RCS, Velocity, Range, Acceleration etc.)

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GENERAL

CINBAD (ELM-2086C) is an AESA (Active Electronically Scanned Array) Test Range Instrumentation Radar for testing aircraft, missiles, rockets and munition as well as satellite launches. Operating in C-Band, the radar generates Time, Space, Position Information (TSPI) data both for real time monitoring and post-processing analysis. AESA technology empowers the solution with a multitude of advanced capabilities, surpassing those of traditional systems. With AESA technology, the system can simultaneously search, acquire, and track multiple aerial targets, regardless of their flight patterns. CINBAD includes a complete Test Range software suite (mission planner, resource manager and post-analysis) capable of handling the most sophisticated simultaneous multi-target scenarios.

The radar can be offered in three versions (small, medium and large) meeting specific customer requirements. CINBAD is field-proven and derived from ELTA's legacy instrumentation radar product line.

KEY FEATURES

- Combined transponder & skin tracking modes
- Large Field of View (FOV)
- Short, medium and long-range system configurations
- Advanced simulation capability for test preparation and operator training
- Sophisticated resource management to achieve optimal radar resources based on test plan
- Algorithms for handling clutter, low altitude, multipath, coherent & noncoherent targets and interferences
- Low risk for single point of failure – radar comprises thousands of transmitters and receivers

IAI – ELTA GROUP
WWW.IAI.CO.IL
MARKET@ELTA.CO.IL