

## **Comsat Technical Services (CTS)**

### **The Leader In Satellite Battery Technology**

COMSAT Technical Services pioneered the development of Nickel Hydrogen batteries and perfected the technology for aerospace use. CTS has unique expertise on Lithium ion batteries and their application to the aerospace industry. CTS has developed advanced techniques to manage batteries in-orbit and to recognize preliminary signs of anomalous battery performance. CTS offers methodology to extend the life of the batteries beyond the designed life of the satellites and a systematic approach to battery sizing, design selection, specialized testing and construction monitoring.

#### **Our core competencies include:**

##### **In-orbit batteries**

- Anomaly resolution
- Refinement of charge control in aging batteries
- Damage control procedures
- Rejuvenation to enhance voltage
- Modeling and life prediction

##### **Preflight engineering**

- Life testing
- Destructive physical analysis
- Failure analysis
- Radiative calorimetry for thermal analysis
- Tests to augment manufacturing control
- Mandatory inspection of components
- Cell design parameters
- Anode and cathode technology
- Cell activation and formation
- Charge control techniques
- Adaptability tests

##### **Development and licensing**

- Nickel-hydrogen
- Nickel-metal hydride
- SPV Nickel-hydrogen
- Li-ion cell

## COMSAT Technical Services

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**Programs supported by the COMSAT Technical Services Battery Lab include:**

<b>CUSTOMER</b>	<b>PROGRAM</b>
AEG	DFS, TVSAT II
AEROSPATIALE	EUTELSAT II
APL	ACE
AT&T	TELSTAR
BAE SYSTEMS	Inmarsat 2, NATO, Skynet, Orion, Olympus
Intelsat	Intelsat IV, V, VI, VII, VIIA, VIII, IX
Lockheed Martin	DSCS
MATRA	Hispasat, Telecom II
NASA	COBE, EUVE, SAMPEX, GRO, TDRSS, LDEF, GOES, POES, TRMM, FAST, HST, EOS, Landsat, MAP
Office of R&D	US Government
Inmarsat	Inmarsat

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