

March 9, 2009

Space Systems/Loral

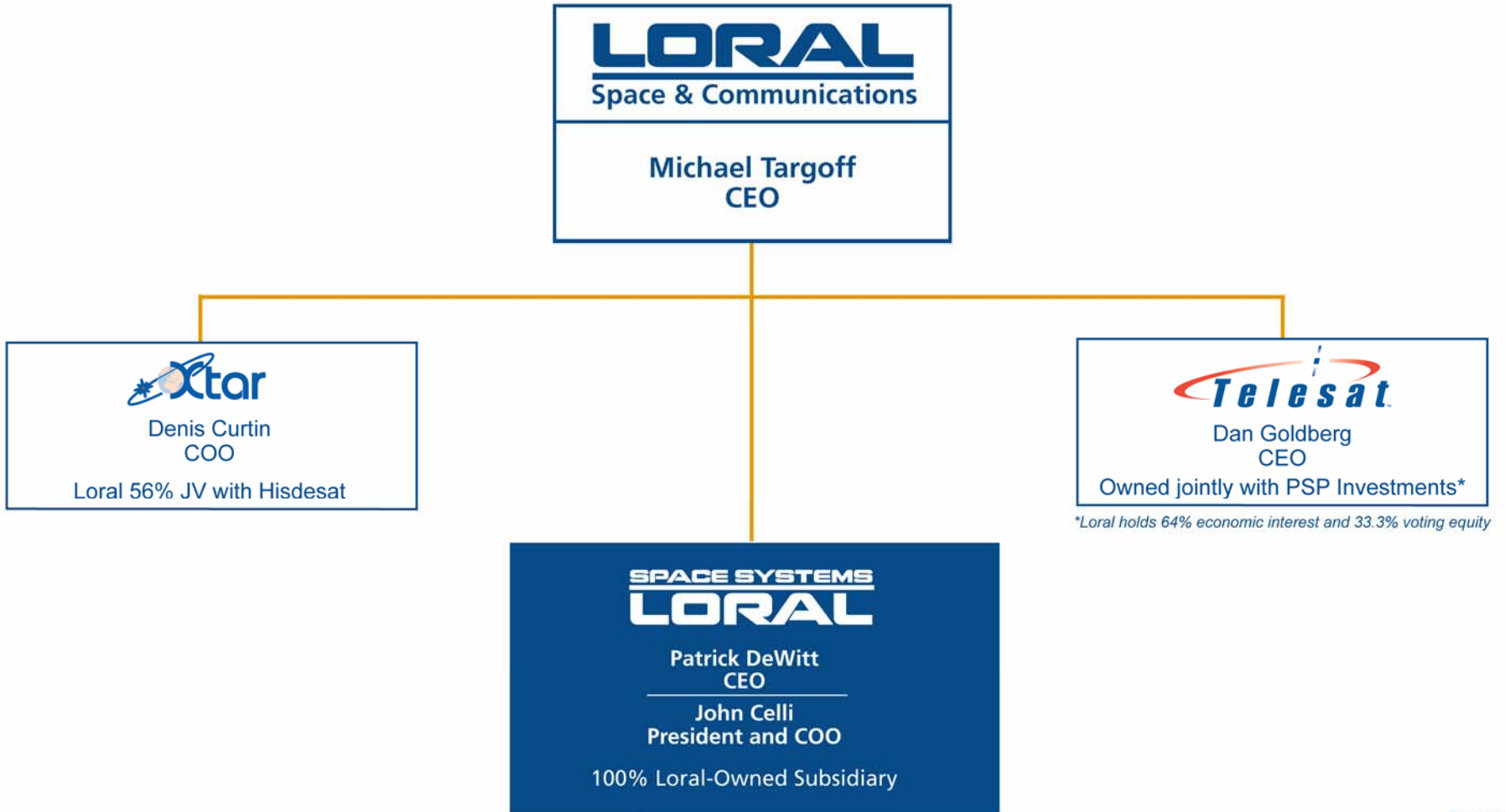
An Overview

Presented to:
Aerospace States Association

"The data/information contained herein has been reviewed and approved for release by SS/L Export Administration on the basis that this document contains no export-controlled information. This data/information shall not be disclosed, disseminated or reproduced, in whole or in part, without the express prior written approval of Space Systems/Loral."



A Division of Loral Space & Communications



2711066

Satellites for Many Types of Services

Military & Commercial Communications



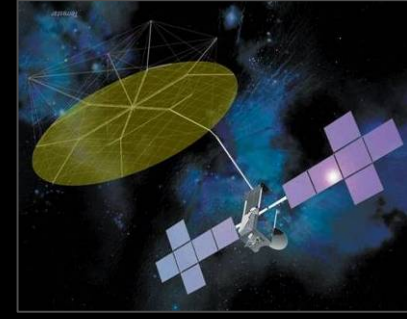
Direct Broadcast



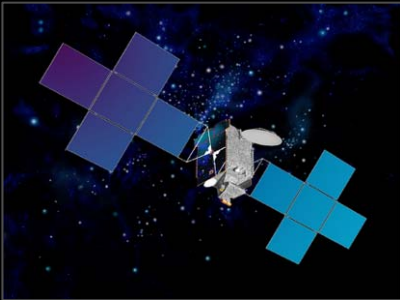
Meteorological & Communication



GEO Mobile Communication



HIEO/GEO Digital Audio Radio



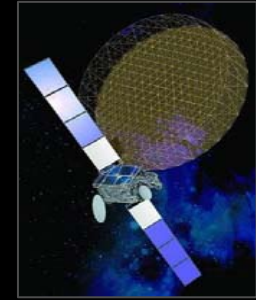
Broadband



Fixed Services



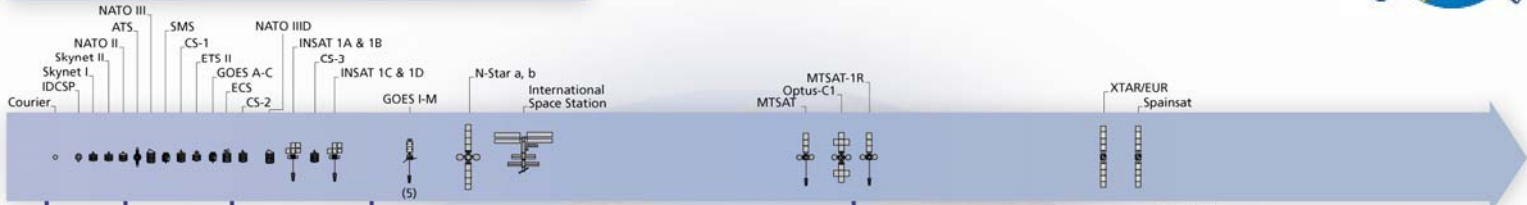
GEO Digital Multimedia Broadcast



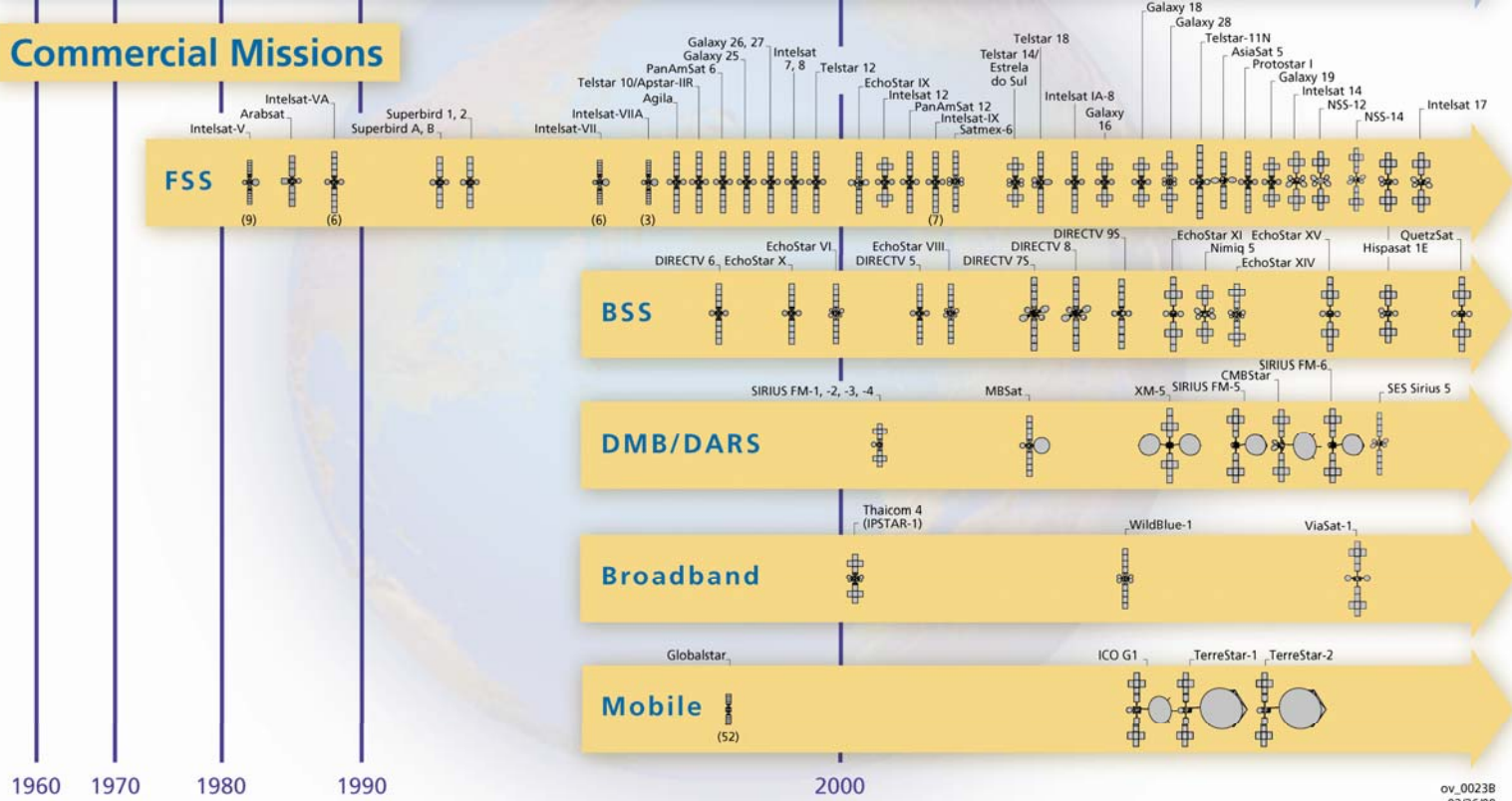
History: 50+ Years in Space Business



Government and Civil Missions

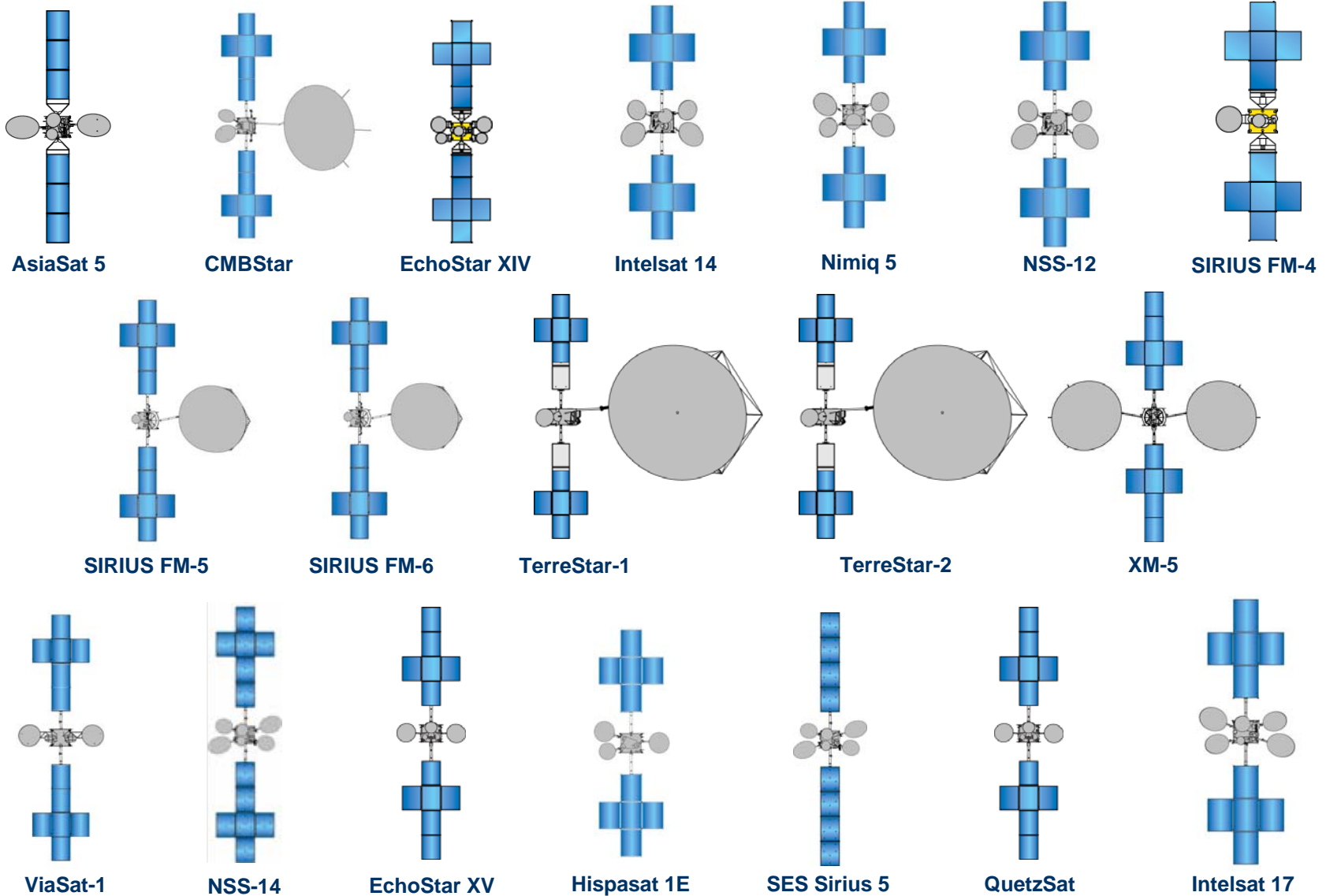


Commercial Missions

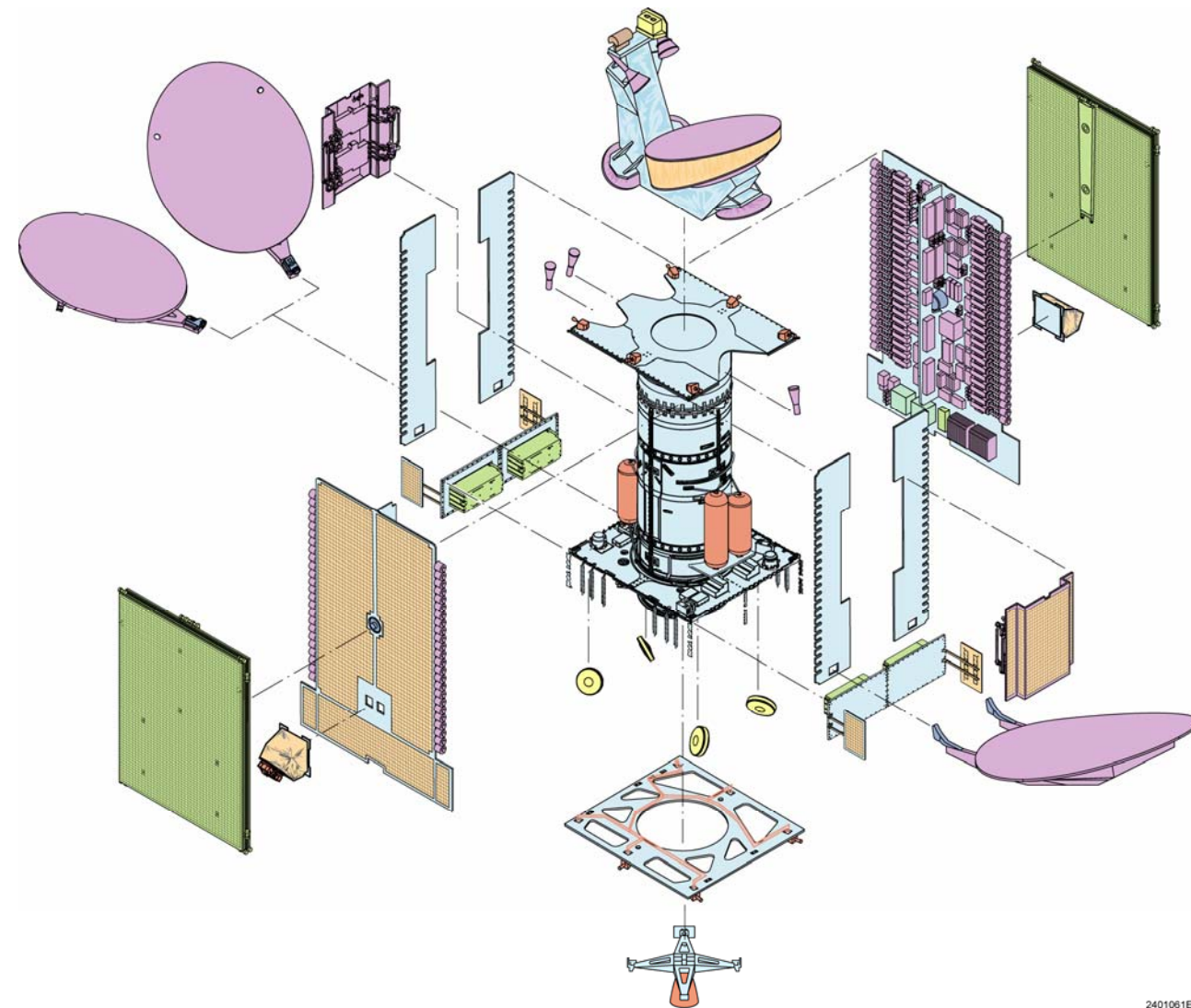


ov_00238
02/26/09

Current Backlog: 19 Communications Satellites



A Satellite is Parts and Communications Capacity



**45,000 to 85,000 parts
in each satellite**

**Generates up to
20,000-W of DC power**

**Mass up to 6,500-kg
(14,000-lbs) at launch**

**Up to and over
100 Gbps
communications
capacity per satellite**

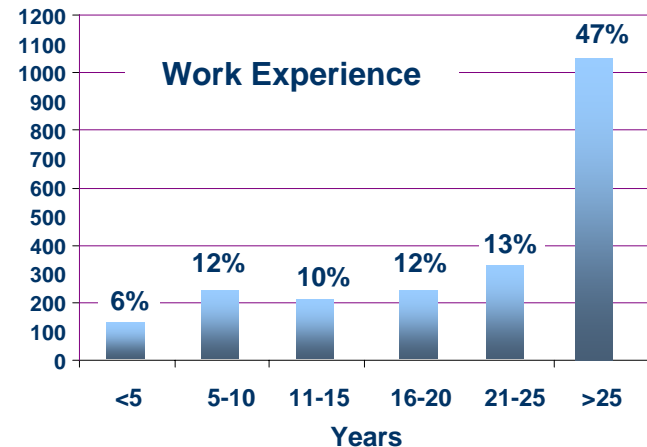
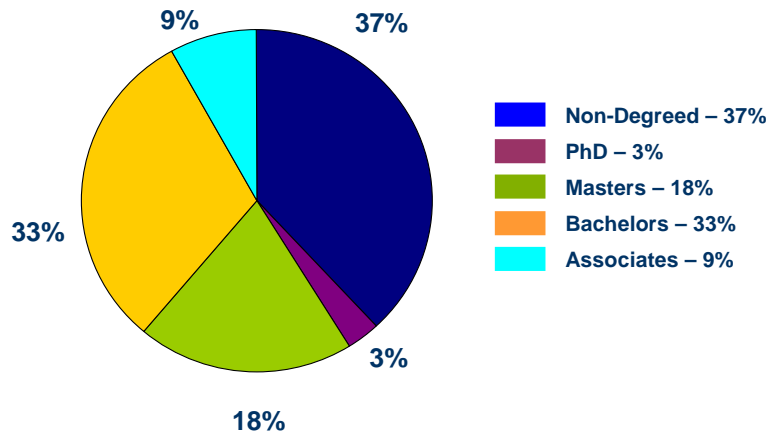
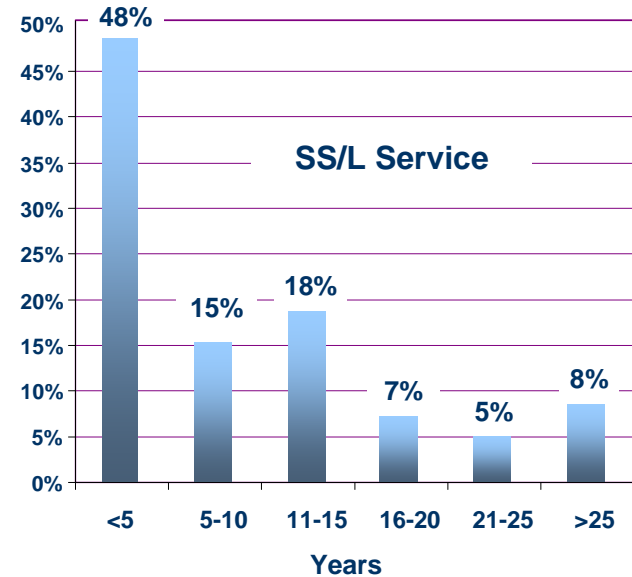
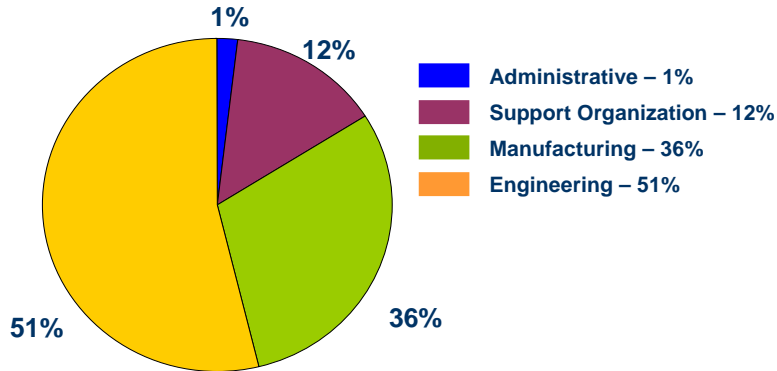
**> 500 television
channels,
simultaneously**

2401061E

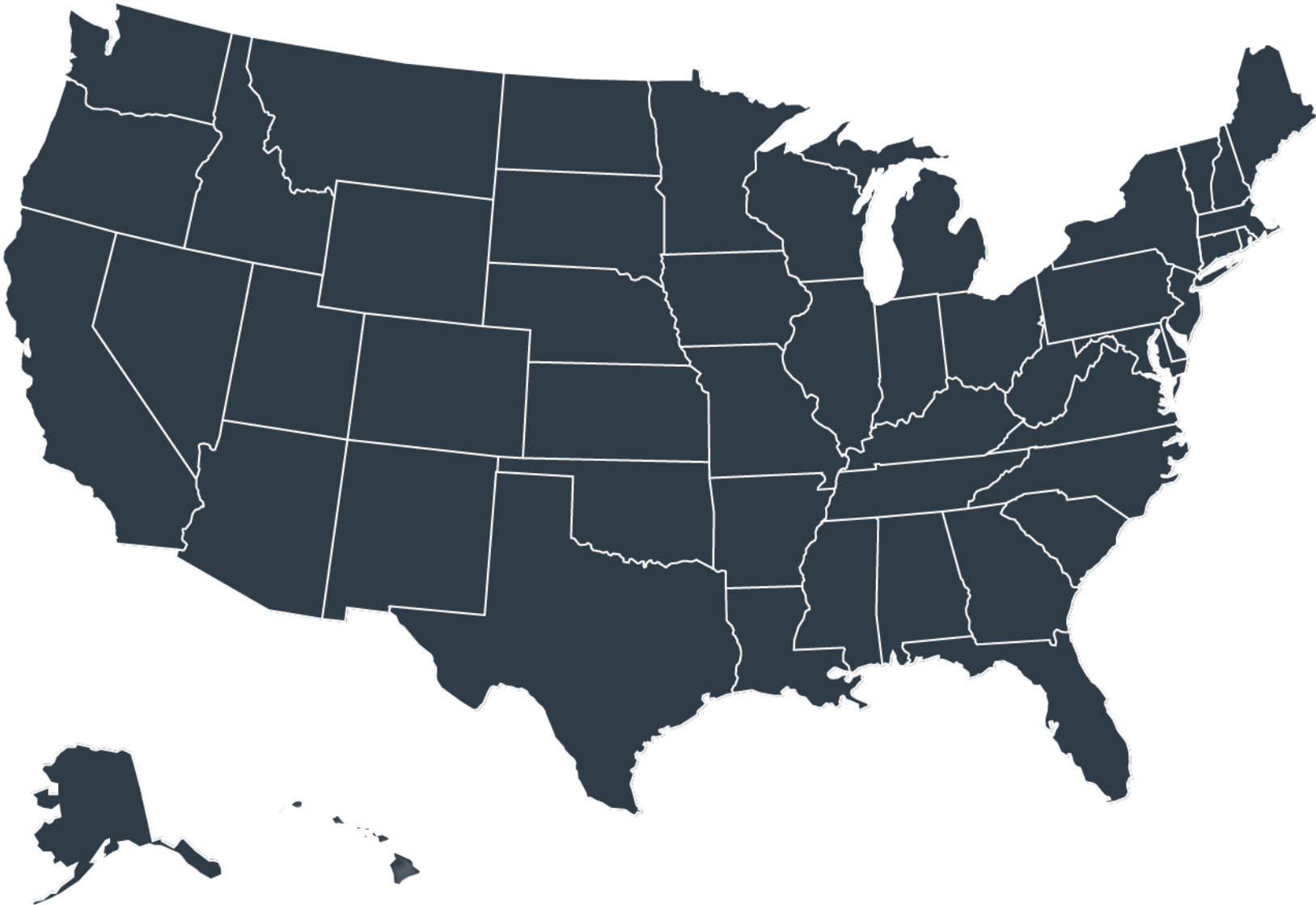
A Satellite is ... Employees, Our Most Important Asset

As of 1Q 2009

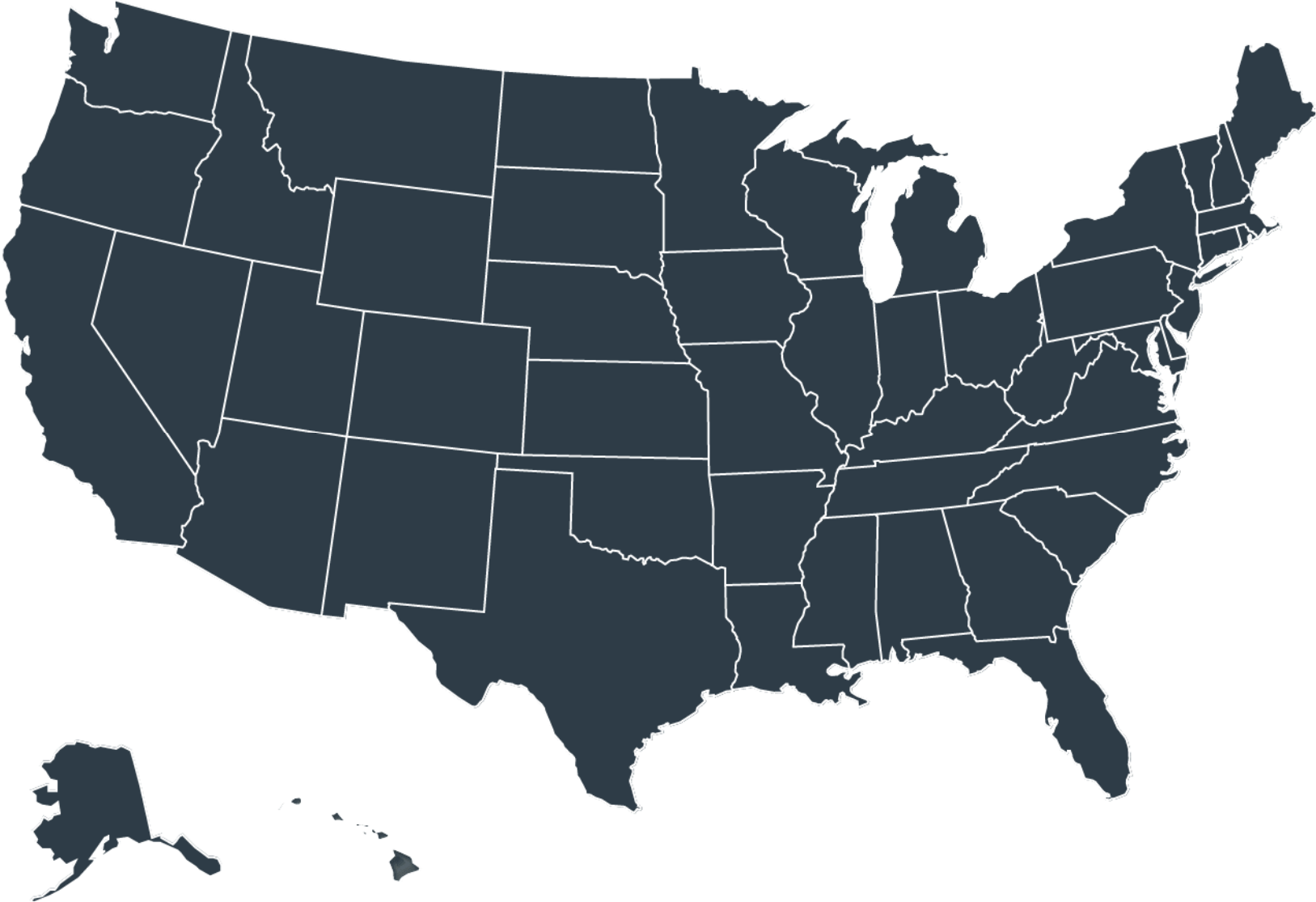
Personnel Type



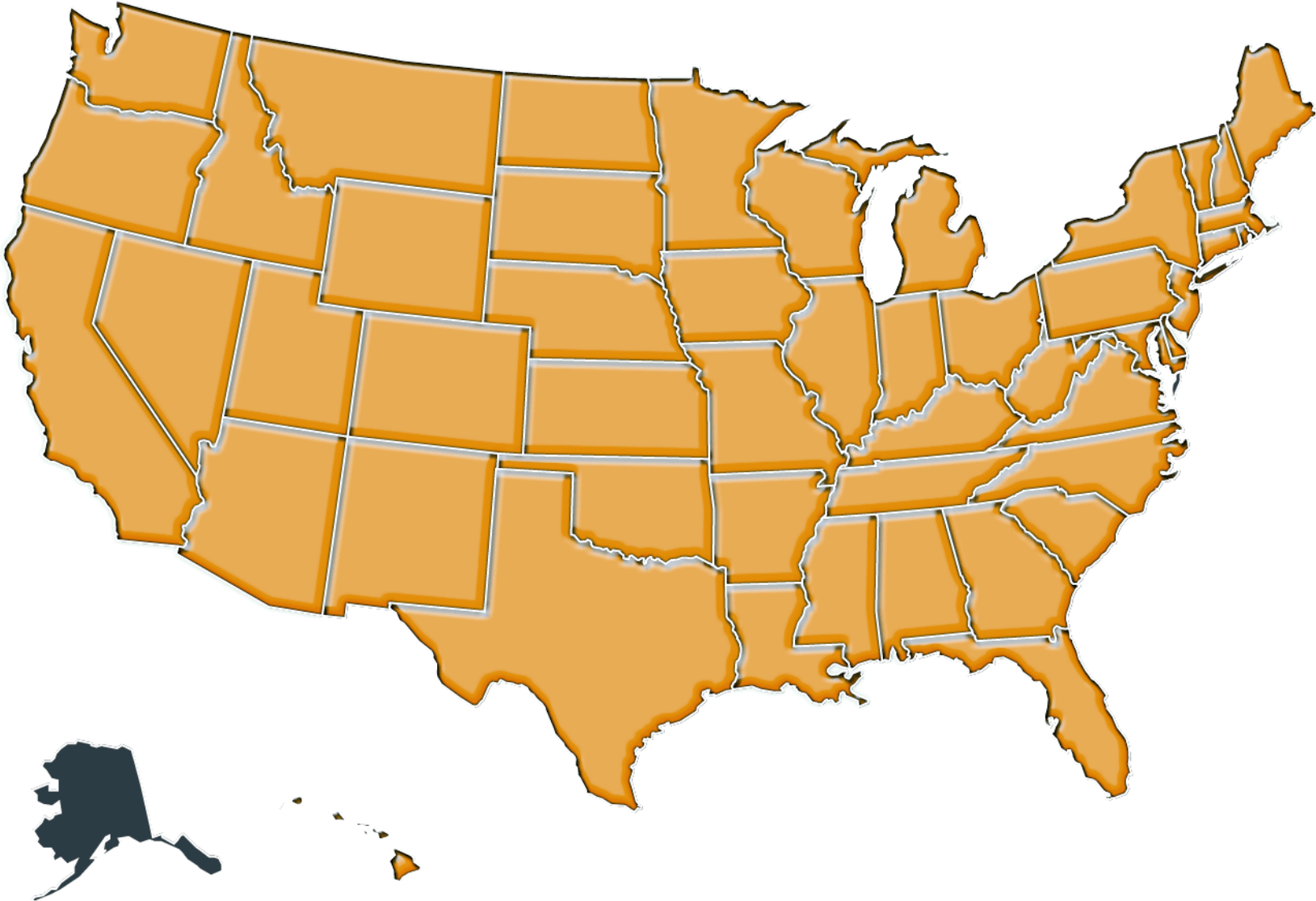
A Satellite is ...



A Satellite is ... Suppliers and Jobs in ...



A Satellite is ... Suppliers and Jobs in 49 States and D.C.

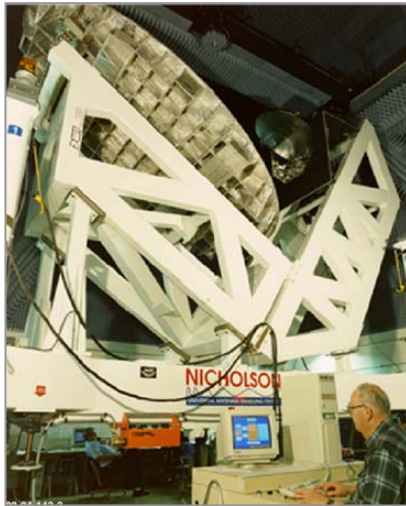


Satellite Manufacturing Creates High Technology Jobs

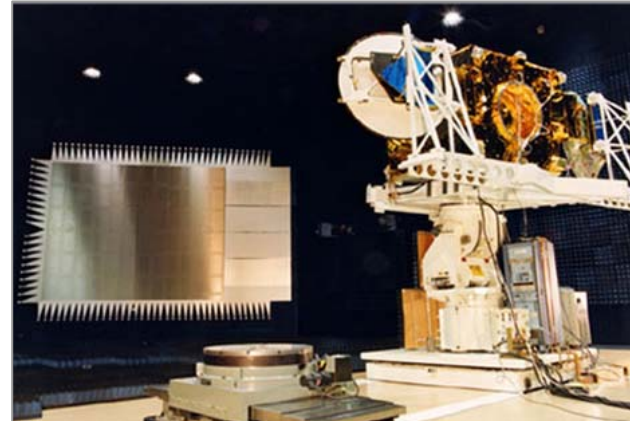
- ◆ **SS/L's current 19 satellite backlog represents over 15,000 high technology jobs in the U.S.**
- ◆ **For each satellite awarded to SS/L**
 - **300–500 high-skilled jobs are retained or created in Palo Alto**
 - **~50% of employees hold Ph.D., M.S., B.S. degrees**
- ◆ **Another 150–250 jobs/satellite for subcontracted content in California**
- ◆ **Another 200–400 jobs for other U.S. suppliers**
- ◆ **Other satellite manufacturing prime contractors in the U.S. generating high technology jobs**
 - **Boeing**
 - **Lockheed Martin**
 - **Orbital Sciences**
 - **Northrop Grumman**
 - **Others**
- ◆ **Ten's of thousands employed in the U.S. in high technology manufacturing by satellite manufacturing industry**

SS/L — Extensive Design, Assembly and Test Facilities

Near-Field Test Range



Far-Field Compact Antenna Test Range



Solar Array Integration



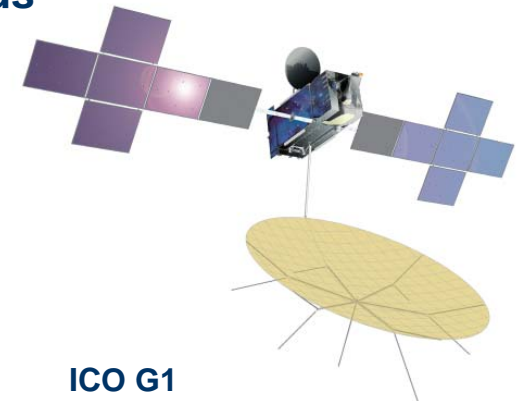
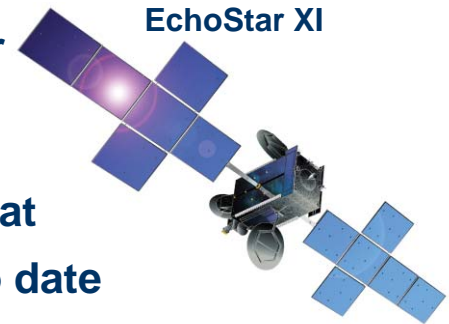
Integration and Test



Thermal Vacuum Chamber

SS/L Leadership in the Satellite Industry

- ◆ SS/L has built more direct broadcast satellites than any other manufacturer helping to create new consumer services
- ◆ SS/L is the premier supplier to Fixed Satellite Service (FSS) operators worldwide, including Intelsat, SES, Telesat, Hispasat
- ◆ Intelsat ordered nearly half its fleet from SS/L, 45 satellites to date
- ◆ SS/L is enabling “universal broadband access” through its leadership in satellite technology
 - Unique beam density capability (112 beams on Thaicom 4)
 - 100 Gbps on ViaSat-1
- ◆ Cost effective integration of advanced satellite technology
 - Unfurlable antenna: MBSat & ICO G1 12-m, Terrestar 18-m
 - Multiple payloads: Optus C1 — UHF, X, Ku, Ka-bands
 - Lithium-ion batteries: Thaicom 4 (IPSTAR-1)
 - Deployed thermal radiator: Intelsat Americas-8
 - Ground Based Beam Forming (GBBF): ICO G1



SS/L — A Premier Communications Satellite Manufacturer

