

# SSPI Hall of Fame Nomination Form 11th Induction Ceremony



The SSPI Hall of Fame, initiated in 1987, recognizes the valuable contributions of the visionaries and pioneers who have made possible the age of satellite communications — individuals who have devoted their careers to the advancement of technology and to helping build the political and commercial foundations of the industry. Individuals are inducted into the Hall of Fame in recognition of scientific, engineering, management and innovation accomplishments over careers typically spanning at least 20 years. Inductees are required to attend the induction ceremony in person.

To nominate an individual for the 2009 Hall of Fame, fill in the fields below. Each field will expand to fit the information you enter. Save the file and email it to [rbell@sspi.org](mailto:rbell@sspi.org). You will receive an acknowledgement of receipt. The deadline for submission of nominations is **December 31, 2008**.

**Name of Nominee:**

Dr. Denis J. Curtin

**Nominees's Current or Most Recent Job Title and Organization:**

Chief Operating Officer, XTAR, LLC

**Brief Summary of Reason for Nomination:**

In the course of his four-plus decades career, Dr. Curtin can make many claims that few could equal as it relates to the founding, development and maturation of the global businesses of communications via satellite. As summarized below, Dr. Curtin's critical and guiding involvement in commercial satellite programs began at COMSAT Laboratories in the late 1960's, and extended through the launch and development of two historic satellite companies, ORION and XTAR, LLC. His innovative contributions to the industry span the scientific, engineering and executive management functions, further demonstration of his qualifications for induction into the SSPI Hall of Fame.

**Nominee Career History and/or Significant Contributions:**

Dr. Curtin is credited with numerous technological contributions, many of them related to the power systems of the first five series of INTELSAT satellites. He and his team in COMSAT's Spacecraft Laboratory characterized all major types of solar cells for possible satellite use. Early on, his team concluded that only silicon solar cells were viable. Their work led to resolving key primary power problems on developing satellites and fostered the development of new high power silicon solar cells by the COMSAT Solid States Physics Lab. Known as the COMSAT cell and later the more powerful Black cell, they became the industry standard for the next 20 years.

Under Dr. Curtin's guidance, another COMSAT Labs team worked on improving solar array in-orbit performance. At that time, arrays were normally soldered parallel and in series with silver interconnections to achieve the proper satellite current and voltage. However, over a 10-15 year orbit and through repeated thermal cycles, the solar cell interconnections on 3-axis stabilized satellites with deployed solar arrays were found to experience dramatic stress. As a result of these stresses the solar arrays often failed after numerous thermal cycles.

Dr. Curtin's COMSAT Labs team fostered development of a new means of interconnecting solar cells, ultimately replacing solder with electrical welding to minimize stress and increase life of the solar arrays. These solar array breakthroughs were directly applied to the Intelsat V program, leading to long life performance. This type of solar array interconnection became the primary means for assembling silicon solar arrays for many years. Dr. Curtin's COMSAT Lab team also managed a number of INTELSAT R&D contracts that led to the development of new types of solar arrays that were later used on French and Japanese satellites.

In the early 1980's, Dr. Curtin managed a COMSAT consulting contract with the League of Arab States, assisting them in developing the first ARABSAT satellites to the COMSAT/Intelsat standard. This

international program was unique in that it involved a French prime contractor (Aerospatiale), an American payload subcontractor (Ford Aerospace), a Japanese TT&C station subcontractor (NEC), and two different launch vehicles, Ariane and the NASA Shuttle.

In 1988, Dr. Curtin joined ORION, a start-up benefiting from the new U.S. law permitting systems to compete with Intelsat. First as head of engineering and then as SVP, Engineering & Operations, he led the ground-up technical development of this early commercial satellite system. He also contributed significantly to forming the Orion Network Systems partnership that built the three satellites. ORION was acquired by Loral Space & Communications in 1998. In 2001 Loral appointed Dr. Curtin General Manager of its new start up program, XTAR, LLC.

As head of XTAR, Dr. Curtin was responsible for the formation of the unique international partnership, before leading the development, launch and operation of what became the first commercial X-band satellite system dedicated to government users. In 2003 he was appointed Chief Operating Officer of XTAR. Today, XTAR owns and operates one satellite and a payload on a second satellite that provide mission-critical bandwidth to U.S. and Allied governments and military forces.

In 2006, SSPI honored XTAR with its Industry Innovator Award in the Systems Development & Applications category. XTAR was cited for introducing a new model for meeting the specialized needs of government and military customers through a commercially developed and operated satellite system operating in the X-Band rather than conventional commercial satellite bands.

Dr. Curtin has authored over thirty publications and co-authored the article on communications satellites in the 10th Edition of the McGraw Hill Encyclopedia of Science and Technology. He is an AIAA Fellow and in 2006 was honored with the prestigious AIAA Aerospace Communications Award.

These breakthrough accomplishments are more than sufficient to assure Dr. Curtin a place on our industry's roll call of pioneers and achievers.

**Nominee Contact Information:**

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**Date of Submission:**

November 24, 2008
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