
Asia in Space: A History

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Background

- Asia occupies a little space in the history of space
 - Japan and China launched the first satellite in 1970
 - The rivalry was not the driving force for Asian countries
 - There is widely shared understanding that space is global and US and USSR were in the lead
 - None of Asian countries were global powers
 - Neither Japan, China nor India has long-range projection capability
 - Military space was not driving force for many years
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Phase 1: Catching Up - Japan

- Technological catching up
 - Pacifist Constitution – no military driving force
 - National pride as the first non-Western industrialized country
 - Economic growth 1950s-1980s – space was affordable
 - Introducing US technology – strong motivation for engineers to develop their own technology
 - Japan-US Accord on commercial satellite procurement in 1990

Phase 1: Catching Up - China

- Strategic catching up
 - Spin-off from strategic missiles to launch capability
 - Inspired by Sputnik launch – symbol of the success of Communism
 - Great Leap and Cultural Revolution – Back step
 - Revitalization of space – “Four Modernization”
 - Fueled by SDI – “863 Plan” including manned space
 - Economic growth and search for international reputation
 - Manned Space is the symbol of Great Power
 - United States is always the target of the catching up

Phase 1: Catching Up - India

- Societal catching up
 - Space is for social infrastructure
 - Telecommunication for education, medicine and broadcasting
 - Earth observation for agriculture and land use
 - Space is not the evidence or proof of technological power
 - Widely divided social strata
 - High technology sector and low productivity sector co-exist
 - Avoidance of ambitious programs
 - Clear cut share of work between civilian agency and military

Phase 2: Competing for Leadership

- APRSAF vs. AP-MCSTA (APSCO)
 - APRSAF – Asia Pacific Regional Space Agency Forum
 - First meeting: 1993
 - Japan's leadership to contribute regional space capability development through providing services
 - Forum (talk shop) of space agencies
 - AP-MCSTA – Asia Pacific Multilateral Cooperation in Space Technology and Application
 - APSCO – Asia Pacific Space Cooperation Organization
 - First meeting: 1994
 - Chinese leadership to transfer technology to less developed countries
 - APRSAF's change – Sentinel Asia in 2005, SAFE (environmental program) in 2008, STAR in 2009 (small satellite program)

Phase 3: Beyond Catching Up

- Japan – From technology to strategy
 - Information Gathering Satellite – first strategic reconnaissance satellite
 - Basic Space Law in 2008 – opening up for Self-Defense Force to develop, own and operate satellites
- China – From catching up to global leadership
 - Manned exploration – space station and Moon exploration
 - Modernization of military capability
- India – From society to technology
 - Moon exploration
 - Commercialization

Military Space in Asia

- Japan – Lack of strong motivation
 - Constitutional constraints – hard to justify long projection capability
 - Telecom for territorial defense and missile defense (early warning)
 - Veto by MoD – Budgetary constraints
 - China – Concerns about US space dominance
 - 2007 ASAT test – Denial strategy, response to NSP 2006
 - Question of transparency
 - India – Concerns about emergence of China
 - Potential threat for future Indian security
 - Modernization of military force + civilian space technology
 - Relationship between civil and military space is not strong
 - Contestable issues
 - Japanese missile defense – Chinese concerns
 - Chinese ASAT capability – Indian missile defense
 - Chinese emergence of modern military power – Japanese territorial defense
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Different Perspectives

- Historical, institutional, social and political differences
 - Japan, China and India shared the concept of catching up
 - But their perspectives on space are quite different
 - There is no common ground for competition except regional leadership
- Future of space in Asia
 - Each country pursue its own objectives
 - Space race only happens when both sides play the same game – India is keen on competing with China, but it is not true *vice versa*
 - Japan may concern Chinese development, but it does not have enough resources to compete