



Ukraine: Space Management for Industry Success

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Ukraine: Space Management for Industry Success

- ◆ Background
- ◆ Role of National Space Agency of Ukraine
 - Plans for Industry Management
 - Ukrainian Space Law
 - Infrastructure and Organization
- ◆ Privatization
- ◆ Market-Oriented Reforms
- ◆ Cooperative Programs
- ◆ Conclusion



Background

- ◆ Ukraine independence in December 1991
- ◆ Sizable aerospace infrastructure
- ◆ Addressing need for economic reform
 - Establish outside partnerships
 - Implement marketing strategies
 - Create market-oriented economy
- ◆ Aerospace industry playing key role

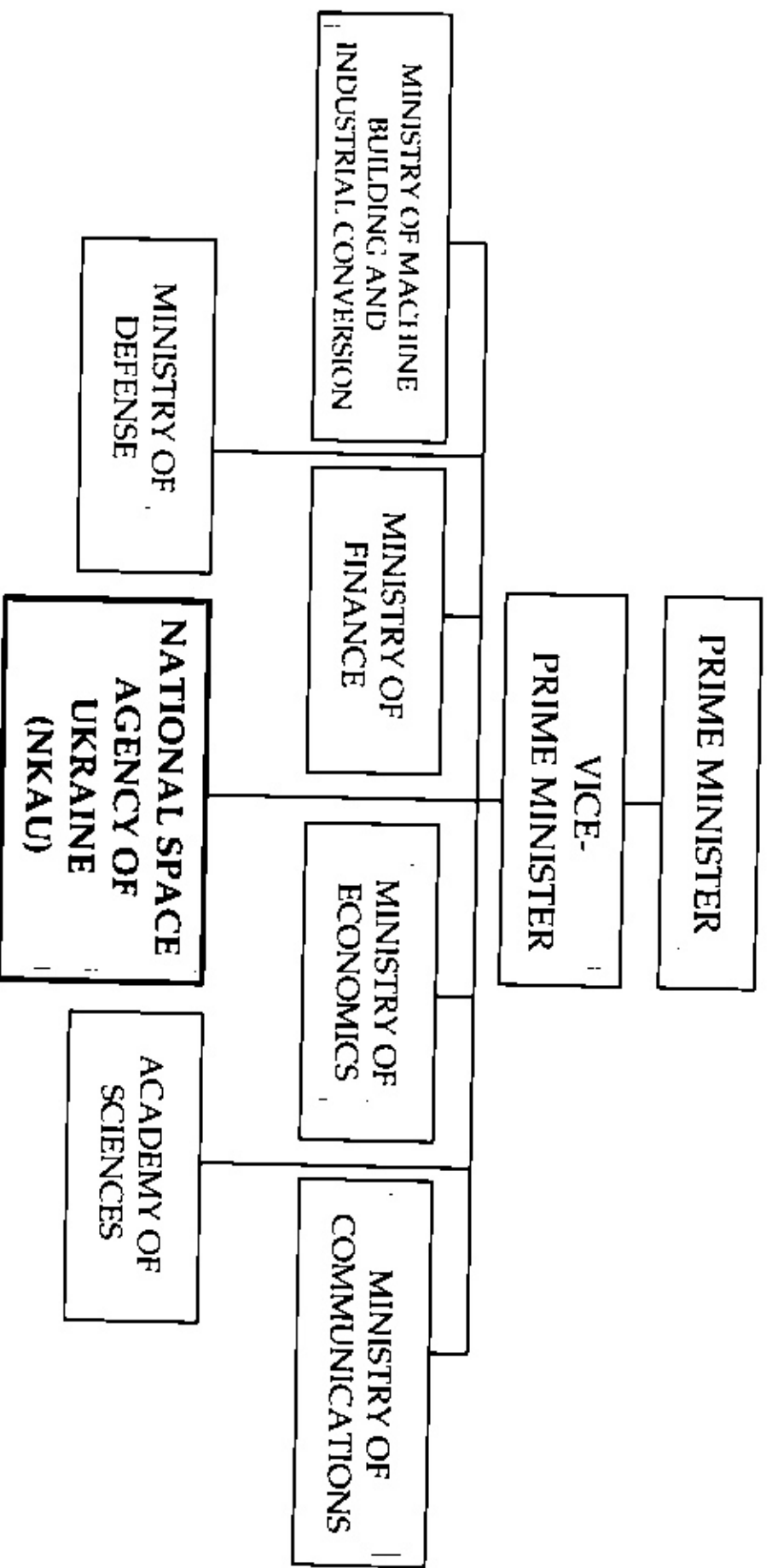


Role of NKAU

- ◆ National Space Agency established February 1992
- ◆ Oversee all Ukrainian space activities
 - Launch vehicles -- Earth observation
 - Ground infrastructure -- Space Science
 - Telecommunications
- ◆ Coordinate space activities and facilitate Western partnerships



Ukrainian Government Organization



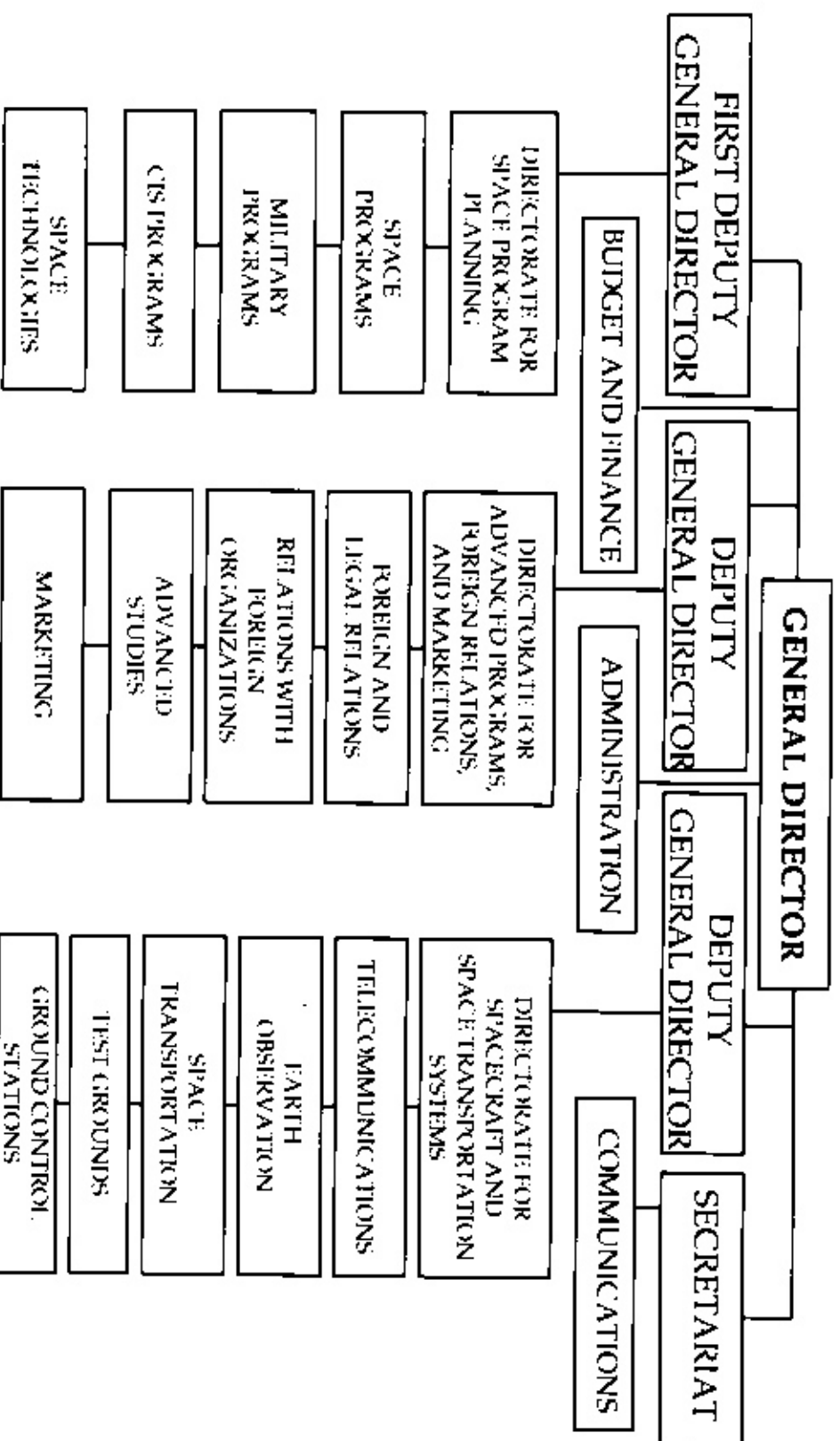


Presidential Edict Broadens NKAU Role

- ◆ New edict signed June 1997 defines principal tasks of NKAU
- ◆ Strengthens influence of aerospace industry
- ◆ Increases visibility and viability of aerospace enterprises
- ◆ Expands role in economic reform



National Space Agency of Ukraine





NKAU Plans for Industry Management

- ◆ Develop draft state programs
- ◆ Assist in preparing proposals
- ◆ Participate in studying reform measures
 - Economic reform
 - Investment and anti-monopoly policy
 - Economic balance sheets
- ◆ Improve taxation, price formation, credit
- ◆ Determine features for privatization of enterprises



Primary Tasks of NKAU

- ◆ Develop national space program
- ◆ Create and implement space and technical policy
- ◆ Participate in economic reform and development
- ◆ Support national security programs
- ◆ Prepare proposals for economic improvement
- ◆ Manage / coordinate space activities
- ◆ Organize selection and training of cosmonauts and of space personnel
- ◆ License space activities
- ◆ Register objects of space activity
- ◆ Monitor budget and funds utilization
- ◆ Oversee safety of space activities
- ◆ Investigate dual use of space hardware
- ◆ Act as state contractor for space operations, housing and structures in support of space activities, and for supply and procurement of products and services
- ◆ Protect intellectual property
- ◆ Develop insurance system
- ◆ Account for sales and contracts on behalf of Ukrainian space enterprises
- ◆ Create scientific and technical information system
- ◆ Inform the public of space activity and organize space exhibitions
- ◆ Represent Ukraine in international organizations
- ◆ Support adoption of satellite communication technologies



New Space Law Sets the Stage

- ◆ Adopted Ukrainian space law “On Space Activities” in November 1996
- ◆ Addresses space technology export, international regulatory compliance, and economics
- ◆ Provides legal framework for export of hardware and services
- ◆ Assists with regulatory compliance abroad
- ◆ Regulates licensing, certification, registration, insurance, national security
- ◆ Establishes scientific and technical council and space collegium



Information Technology Infrastructure

- ◆ Ukraine participation in INMARSAT, INTEL SAT, EUTEL SAT
- ◆ UkrCosmos the designated representative
- ◆ Five goals for information technology development
 - National space architecture
 - National navigation system
 - Links to international information networks
 - Satellite broadcasting distribution networks
 - Satellite communications and broadcasting



Privatization

- ◆ Ukrainian Supreme Rada passed “Concept of National Security Policy” in Summer 1997 that affects privatization of aerospace industry
 - Law allows up to 1,300 organizations previously exempt to privatize
- ◆ NKAU will play role in licensing and certifying projects



Transition from Military to Civilian

- ◆ Perhaps most difficult task facing aerospace industry
- ◆ Many issues, both political and emotional
 - Personnel transfers
 - Organization and management structure
 - Programmatic and financial oversight



Market-Oriented Reforms: A Long Process

- ◆ Foreign companies perceive that Ukrainian government creating unfavorable climate for investors
- ◆ Ukraine must overcome numerous hurdles
 - Budget shortages
 - Inefficient tax schedule and collection
 - Archaic pension structure
 - Corruption
 - Favoritism
- ◆ Must implement reforms to attract investment and stimulate economic growth
- ◆ Criticism over unpaid wages and slow pace of reform



Processes to Assist Reforms

- ◆ Gore-Kuchma Commission established
 - Improve foreign investment
 - » Eliminate privileged investment schemes
 - » Close legal loopholes
 - » Seek commercial risk insurance
 - » Create unified code of taxation
 - Encourage collaboration in science and technology
 - Address export control, non-proliferation, arms control



Additional Challenges

- ◆ Shortage of funding
- ◆ Ability to train and educate young people
- ◆ But . . . both lead to incentives for increased cooperation
 - Target areas for defense conversion
 - Establish connections with Western counterparts
 - Seek commercial financing



Cooperation is Paramount

- ◆ Brings in much-needed funding
- ◆ Allows enterprises to demonstrate expertise
- ◆ Enables practical experience with cooperative partners
 - Management
 - Contracts
 - Finance
 - Law
 - Culture



Ukraine's Major Space Programs

- ◆ Ukrainian cosmonaut and space biology experiment flight on-board STS-87 in November
- ◆ Sich-1M satellite (follow-on to Sich-1 satellite)
- ◆ Tsyklon vehicle launches for Ukrainian-Russian joint ventures, including Okean
- ◆ Dnepr launch vehicle (based on SS-18 ICBM)
- ◆ Joint program for Earth ionosphere studies



Cooperative Programs Flourishing

- ◆ United States
- ◆ Europe
- ◆ Russia
- ◆ Asia-Pacific Rim
- ◆ Israel
- ◆ Latin America
- ◆ Commercial Ventures



United States

- ◆ Primary example of successful government-to-government cooperation
- ◆ Flight of first Ukrainian cosmonaut on Shuttle
- ◆ Plant biology and space welding experiments



Europe

- ◆ Exploring opportunities for technical cooperation with ESA, governments, and industry
- ◆ Negotiated participation with Italy and others for Earth ionosphere studies project



Russia: Neighbors & Partners

- ◆ History of joint efforts
 - Soyuz / Proton & Mir control systems
 - Zenit / Tsyklon launch engines
- ◆ Although both seek independence, both can and do benefit from continued successful relationships
- ◆ Signed joint statement May 1997
 - Ukraine research module for space station
 - International research center at Evpatoria, Crimea
 - Launch infrastructure maintenance at Baikonur
 - Joint development of Dnepr rocket
 - Civil and military aviation



Asia-Pacific Rim

◆ Japan

- Discuss investment in space exploration, aerospace, shipbuilding
- Participate in joint Okean-O earth resources satellite
- Consider launch of Japanese small satellites

◆ China

- Discussions for bilateral cooperation
- Design satellite control and monitoring systems
- Develop control platforms for microsats



Israel

- ◆ Signed memorandum of free trade and series of agreements in April 1997
- ◆ More than 100 Israeli ventures operate in Ukraine, mostly in agriculture and finance
- ◆ Discussions are precursor to expanding cooperation in aviation and space
 - May consider launch of Israeli satellites on Ukrainian vehicles



Latin America

- ◆ Tours of Brazil, Argentina, Chile resulted in cooperative aerospace agreements
- ◆ Signed bilateral agreement with Brazil in May 1997
 - Use of Alcántara launch site for Ukraine
 - Joint radioastronomy research
 - Assistance with space policy development
- ◆ Economic cooperation with Chile
 - Scientific and technological ventures
 - Creation of cargo shipping lines



Commercial Ventures

- ◆ Mostly focused in launch services
- ◆ Zenit-2 launches of Space Systems/Loral Globalstar satellites
- ◆ Use of Russian Fregat upper stage on Zenit for GEO launches
- ◆ Sea Launch
- ◆ Dnepr vehicle (converted SS-18)



Conclusion

- ◆ Challenges still remain
 - Budgets, taxes, pensions, corruption
 - Aerospace industry reforms and partnerships must operate within the overall Ukrainian infrastructure
- ◆ But Ukraine demonstrating willingness to move forward with economic and management reform
 - Working to attract investment and stimulate economic growth
- ◆ Cooperative partnerships giving practical experience
- ◆ Ultimately, expect strong contributions of aerospace industry to market-oriented economy of Ukraine