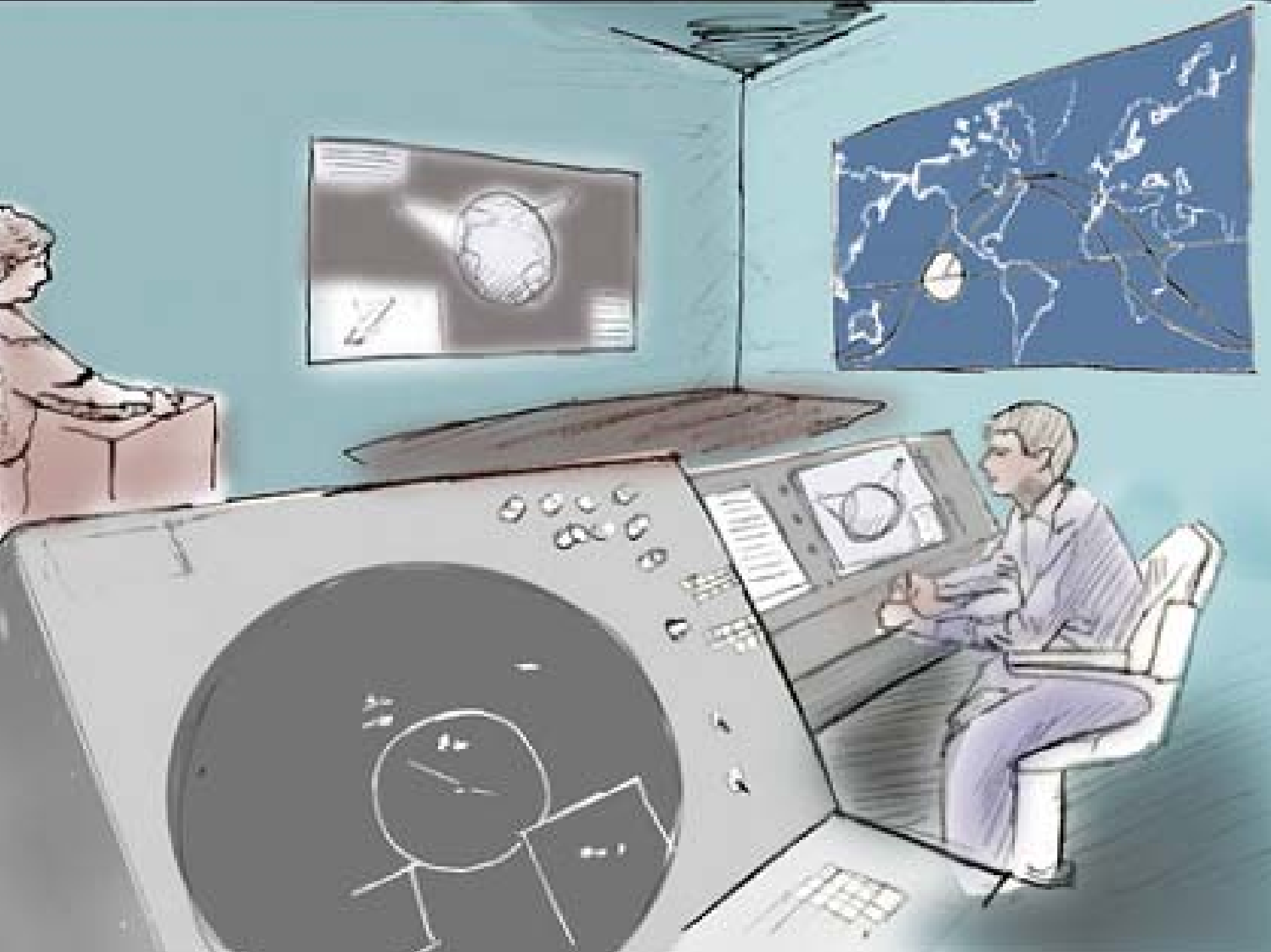
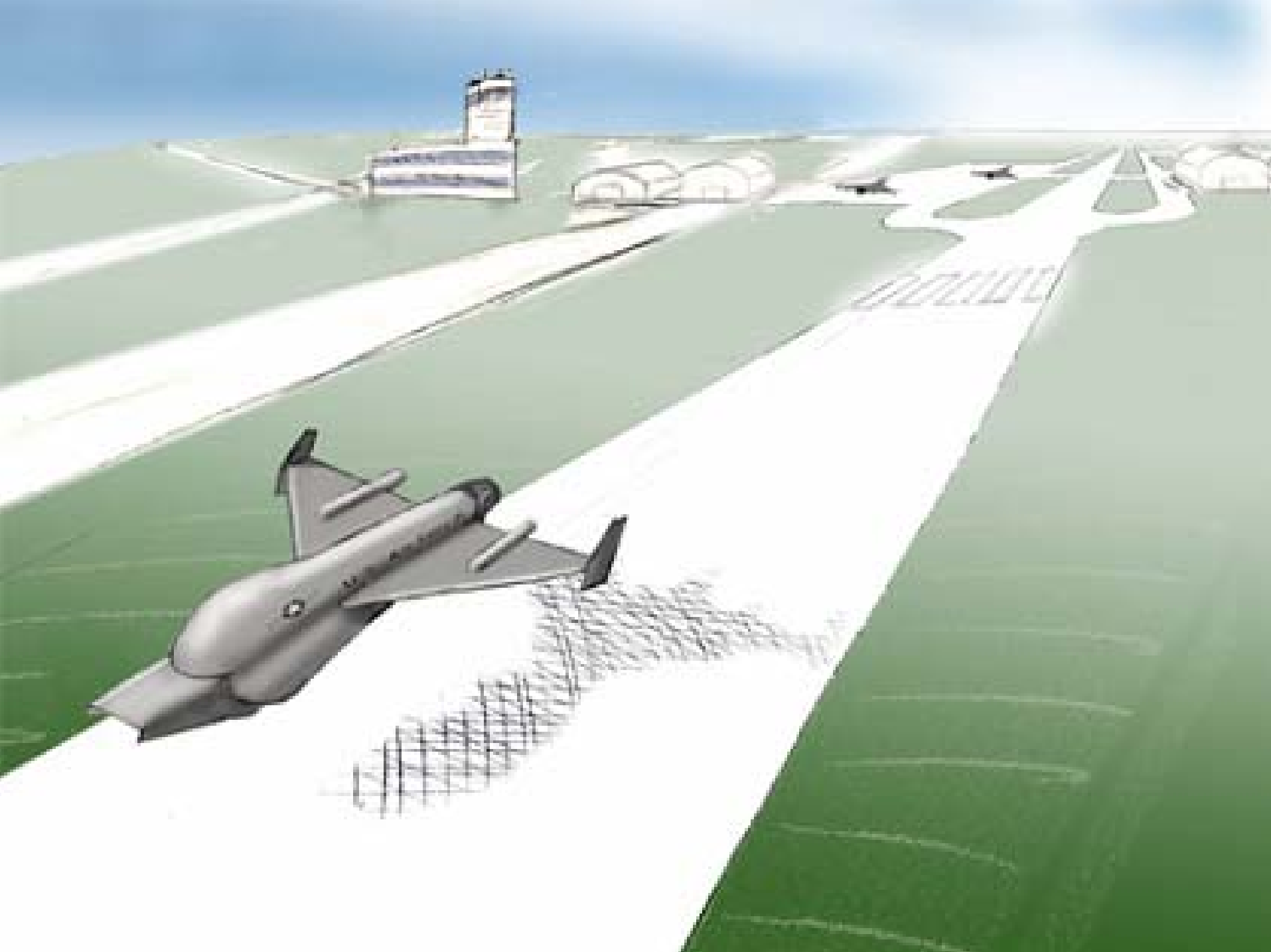
DARPA
DARPATech
2002 Symposium
Transforming
Fantasy

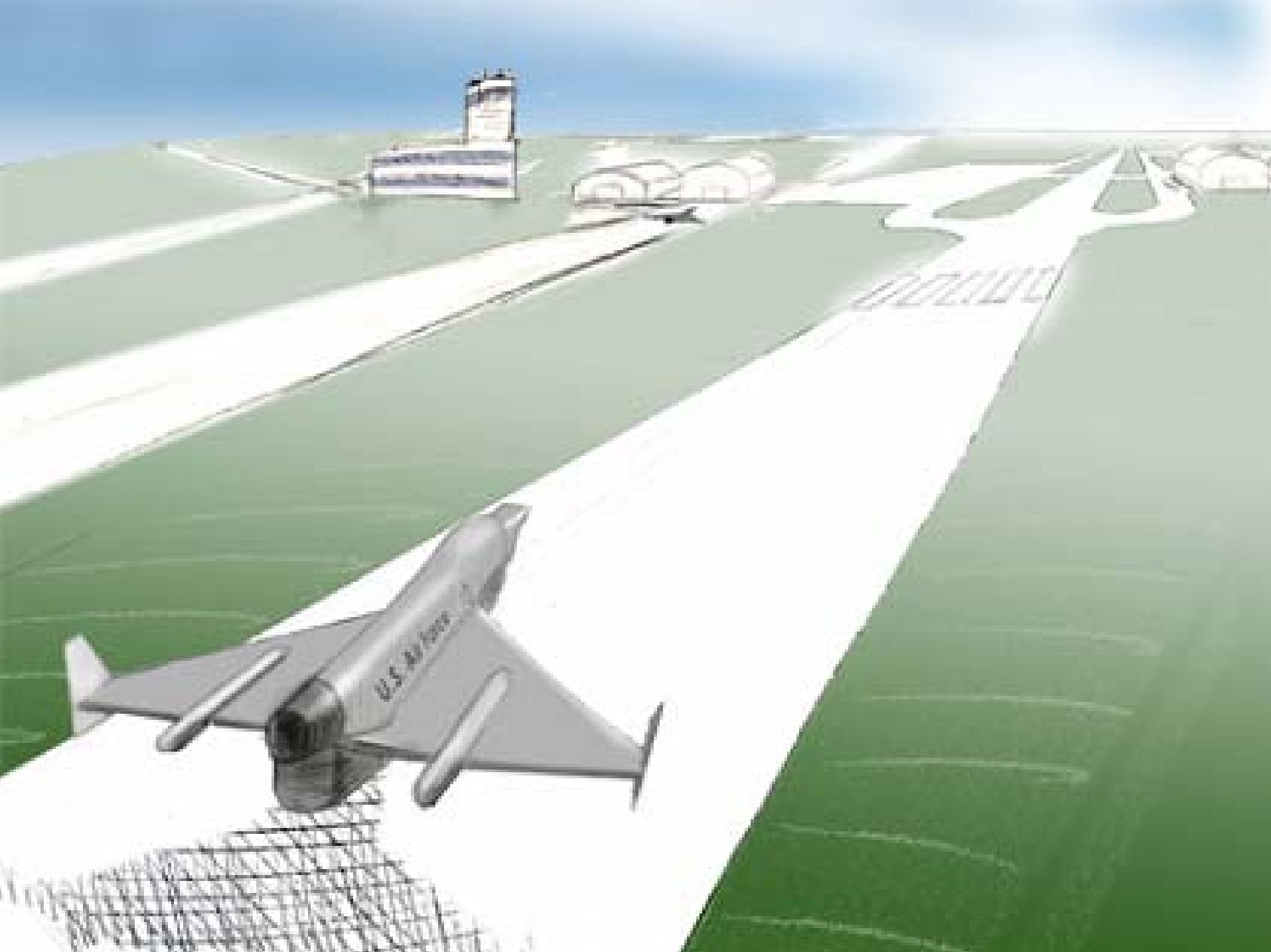
Preston H. Carter
Program Manager,
Tactical
Technology Office

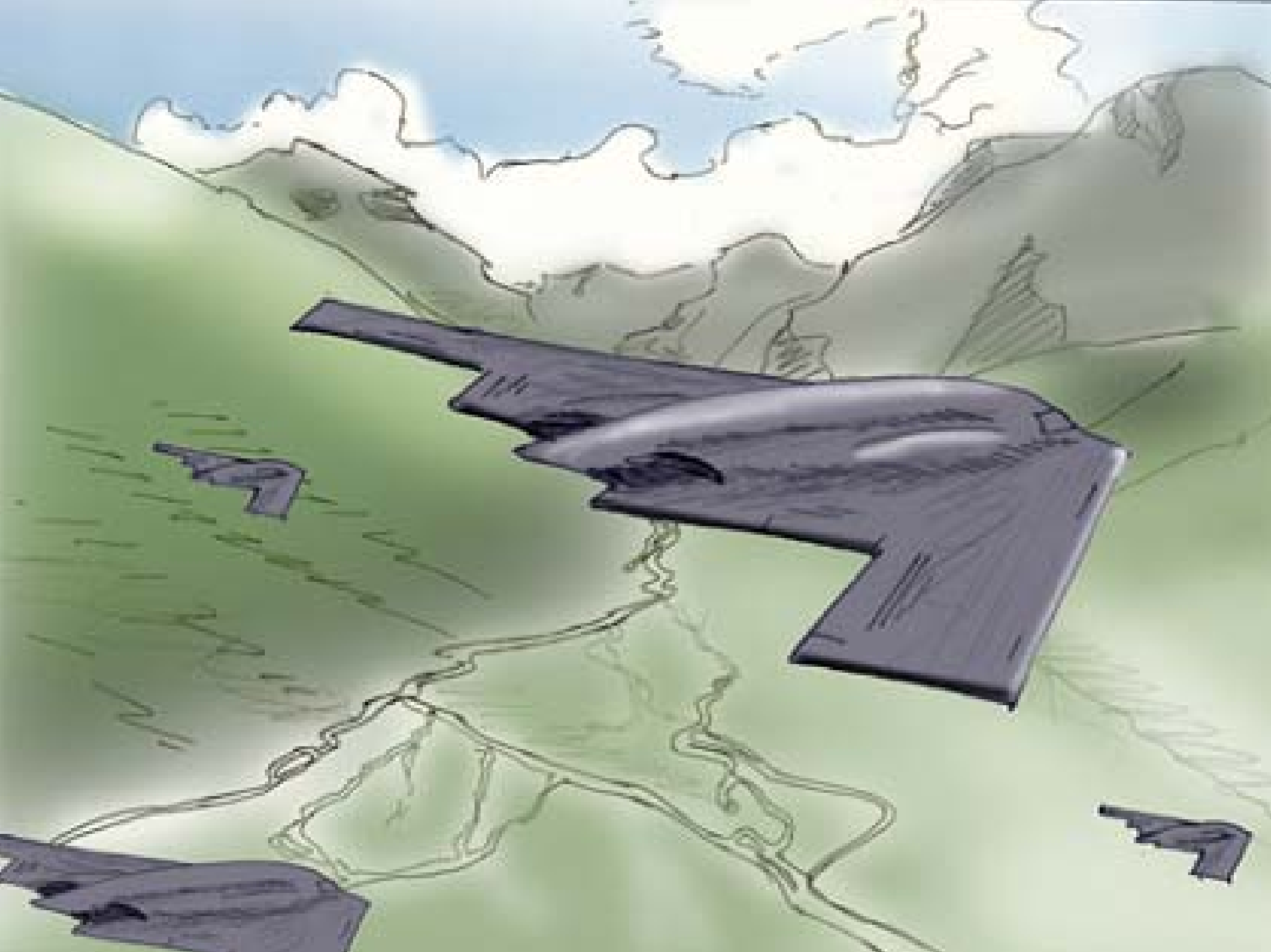
DARPA
Rascal

DARPA DEVELOPS LIGHTSABER
Chronicle
CITY IN CHAOS
QUAD SETS NUKE









RASCAL

Responsive Access, Small Cargo, Affordable Launch

Objective:	***Responsive*, *Routine* & *Small-Scale* access to space**
Approach:	***Blend of Reusable & Expendable vehicles***
	Aircraft reusable first-stage capable of Exo-Atmospheric Flight
	Low-cost expendable upper stages
Goals:	***130 kg to orbit and at least 50 kg to LEO Anytime, Any Inclination.***
	High Flight Rate, on-time performance, low cost
	$750,000 per launch at 20 launches a year

Space Access for Exploring Military Space CONOPS and Technology

Transformational Fantasy

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Distribution Statement A. Approved for public release; distribution is unlimited.

Technology Frontiers

- Highly operational, reusable launch vehicles
- Trans-atmospheric flight
- High Mach number and accelerator turbojet propulsion
- Low-cost expendable launch vehicles
- Adaptive launch operations
- Payload vibration isolation

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RASCAL Performers

CRC

SPACE ACCESS

SPACE LAUNCH CORPORATION

PIONEER ROCKETPLANE

NORTHROP GRUMMAN Integrated Systems

DELTA VELOCITY

Transforming Fantasy

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