FAA COE CST
(Center of Excellence for Commercial Space Transportation)
• Past
• Present
• Highlights
• Future

Ken Davidian, FAA AST Director of Research
FAA COMSTAC Systems Working Group Mtg
May 7, 2014
Center of Excellence for Commercial Space Transportation


- **What**: A 10-year partnership of academia, industry, and government to create a world-class consortium.
  - August 2010 - August 2020
- **3 Goals**: Research, Training, Outreach/STEM
- **Purpose**: Improve National Competitiveness…
  … through the development of advanced, specialized *human, physical, and knowledge resources* to address commercial space industry challenges.
- **Origins**: Openly-competed and selected by the FAA Administrator.
- **Matching Requirement**: 1:1 for All USG Funds
COE CST Research Areas & Tasks

1. Space Traffic Management & Operations
   1.1 Orbital
   1.2 Suborbital
   1.3 NAS Integration
   1.4 Spaceport Operations
   1.5 Integrated Air/Space Traffic Management

2. Space Transportation Operations, Technologies & Payloads
   2.1 Ground System & Ops Safety Techs
   2.2 Vehicle Safety Analyses
   2.3 Vehicle Safety Systems & Techs
   2.4 Payload Safety
   2.5 Vehicle Ops Safety

3. Human Spaceflight
   3.1 Aerospace Physiology & Medicine
   3.2 Personnel Training
   3.3 ECLSS
   3.4 Habitability & Human Factors
   3.5 Human Rating

4. Space Transportation Industry Viability
   4.1 Markets
   4.2 Policy
   4.3 Law
   4.4 Regulation
   4.5 Cross-Cutting Topics
Annual Technical, Admin Meetings

ATM3, October 28-30, 2013, Washington DC

AAM4, April 22-23, 2014, FIT, Melbourne, FL

COE CST Presentation to COMSTAC Systems Working Group
May 7, 2014
Suborbital Flight Human Testing
Body of Knowledge for Spaceport Operations

- Research Area: 1.4 Spaceport Operations
- University: NMSU
- PI: Dr. Patricia Hynes
- Partners: AIAA, ATK, Bachner Consultants, Inc., Ball Aerospace, Cimmaron Software Services, Digital Solutions, Marketing Consultant, National Space Grant Foundation, New Mexico Spaceport Authority, NMSU Space Development Foundation, SATWEST, Space News, Spaceport Sweden, Swedish Institute of Space Physics, Boeing CSSI, Dynetics, Jacobs Technology, Lockheed Martin, PSU Aerospace Engineering, Qinetiq, Space Works Enterprises, Spaceport America Consultants, Spaceworks, The Tauri Group, Webster University Space Programs, XCOR Aerospace

URL: contentdm.nmsu.edu:2011/cdm/landingpage/collection/NMSGCBOK
COE CST Year 3 Annual Reports

• Now available on the web at:
  • Exec Summ: bit.ly/COECSTYr3ExecSumm
  • Volume 1: bit.ly/COECSTYr3Vol1
  • Volume 2: bit.ly/COECSTYr3Vol2
  • Volume 3: bit.ly/COECSTYr3Vol3
COE CST’s Official Journal: New Space
For More Information…

• FAA AST Annual Compendium of Commercial Space Transportation: 2013

• COE CST Web Site

• Blogs & Wikis
  • Florida Space RePort by Eddie Ellegood
  • ParabolicArc.com by Douglas Messier
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www.coe-cst.org

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US Human Orbital Market Industry Base

Demonstrated Markets
- LEO Tourism ++
- LEO Government Crew ++++
- Foreign Astronaut Corps ++++
- CIS Lunar Tourism +
- CIS Lunar Gov’t Crew +

Potential Markets
- R&D ++
- Media & Promotion
- Other (future) markets

End Use Services

Tier 1. Final Products
- HOM Launch Vehicles ++
- HOM Spacecraft ++
- HOM Destinations +

Tier 2-4. Supplying Industries
- Petrochemicals ++
- Metals & Minerals ++
- Finance, Capital ++++
- Human Resources & Education ++++
- Fuels and Oxidizers
- Engines, Motors ++
- Structures ++
- Navigation & Guidance ++
- Space Specialties (SSIG) ++
- Systems Integration ++
- Infrastructure +++
- Pressure Tanks +
- Electronics Industries (EIG) +
- Plumbing ++
- Automobile
- Civil Space +++
- PC & Internet +++
- Military Aerospace +++

Tier 5. Upstream Industries
- Infrastructure +++
- Petrochemicals ++
- Metals & Minerals ++
- Finance, Capital ++++
- Human Resources & Education ++++
- Fuels and Oxidizers
- Engines, Motors ++
- Structures ++
- Navigation & Guidance ++
- Space Specialties (SSIG) ++
- Systems Integration ++
- Infrastructure +++
- Pressure Tanks +
- Electronics Industries (EIG) +
- Plumbing ++
- Automobile
- Civil Space +++
- PC & Internet +++
- Military Aerospace +++

Supporting Industries

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