A-P-T RESEARCH, INC.
an employee-owned company

APT CORPORATE CAPABILITIES

CORPORATE OVERVIEW

Providing Safe Solutions to Government & Industry

- APT Research, Inc. (Analysis-Planning-Test Research, Inc.) is a 100% employee-owned, small business headquartered in Research Park, Huntsville, AL.
- Founded in 1990, APT has steadily grown to a solid business base of ~$30M/year.
- APT is AS9100 compliant and currently provides safety and mission assurance focused specialty engineering services to Government agencies and industry partners.
- APT's ISO 9001:2015 certification includes the unique statement: "*APT Research, Inc., has established and maintains a quality management system for the delivery of products and engineering services for safety, quality, mission assurance, testing, analysis, … and training on a global basis to Government and industrial organizations.*"

QUALITY
I.S. EN ISO 9001:2015
NSAI Certified

Safety & Mission Assurance is our specialty… our lane… our wheelhouse!

AWARDS & CREDENTIALS

A Legacy of Industry Excellence

Awards

- 2020 NASA Kennedy Space Center (KSC) Small Business Prime Contractor of the Year
- 2013 Small Business of the Year — Huntsville/Madison County Chamber of Commerce
- 2023 Supply Chain Performance Achievement: Blue Level from Boeing

Credentials

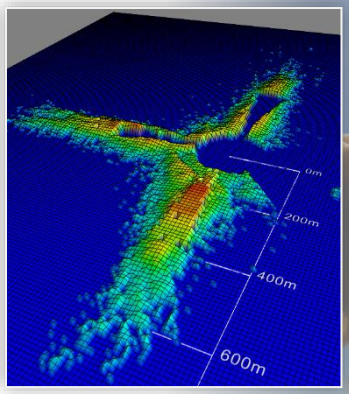
- Current DOT Explosives Hazard Classifiers
- Internationally recognized experts in modeling explosives effects and range safety
- Former NASA Human Spaceflight Programs, Chief Engineers, Chief Safety Officers, SMA Directors
- Former NASA Aerospace Safety Advisory Panel (ASAP) Member
- Former Flight Safety and Range Safety Officers
- International System Safety Society Officers, Fellows, and Technical Achievement Awardees
- Executive committee members, International Association for Advancement of Space Safety (IAASS)

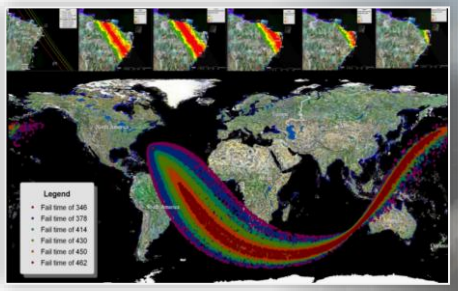
CAPABILITIES

Providing proactive safety solutions that are timely, responsive, and innovative

Core Capabilities

- Comprehensive Safety & Mission Assurance (SMA) Program Services
- System Safety
- Reliability, Availability, Maintainability (RAM)
- Quality Engineering / Assurance
- Software System Safety (Testing, Airworthiness, IV&V)
- Artificial Intelligence / Machine Learning (AI/ML) Safety
- Flight / Range Safety (Missile, Rocket, UAV)
- Explosives Safety (Compliance, Site Planning, Modeling, Testing, DOT Hazard Classification)
- Risk Analysis / Management
- SMA Workforce Development / Training





Safety & Mission Assurance is our specialty… our lane… our wheelhouse!

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CORPORATE CUSTOMERS & APT LOCATIONS

Services provided to organizations at multiple locations in the US and abroad

Government Agencies

DoD

Air Force
- 45th Space Wing
- Air Force Research Laboratory
- Air Force Safety Center
- Edwards AFB
- Hanscom AFB
- Hill AFB
- Robins AFB
- Tinker AFB

Army
- AMCOM Safety Office
- ARDEC
- AvMC S3I
- Corps of Engineers
- GVSC SEC
- IAMD
- PEO Aviation
- PEO Missiles & Space
- Picatinny Arsenal
- RCCTO AHW
- Redstone Test Center
- Scott AMC
- SMDC
- USATCES
- WSMR
- YPG

U.S. Coast Guard
DDESB
JIDO
RBESCT
RCC Risk Committee
Marines
- USMC Blount Island Command
- Marine Corps System Command

DoD (cont'd)

MDA
- STEPAL
- VSFB

Navy
- CPS/Army Dark Eagle
- NAVAIR
- Naval Ordnance Center
- NAVFAC EXWC
- NSWC IHD/PHD
- NOSSA
- NUWC Newport
- PMRF

DOE
- Lawrence Livermore
- Los Alamos

DOT
- FAA-AST
- PHMSA

DOJ

ATF
- ERDD
- NCETR

FBI

NASA
- DSOC
- JSC
- Goddard
- KSC Prime S&MA
- Michoud
- MSFC
- NASA Armstrong Test Facility
- NASA Safety Center
- Wallops Flight Facility

U.S. Chemical Safety Board

Singapore DSTA

Industry

- American Ordnance
- Anduril
- Armag
- ARCTOS
- ASRC
- Axiom Space
- BAE Systems
- Black & Veatch
- Blue Origin
- Boeing
- BRPH Architects-Engineers
- Cimarron
- Dyno Nobel
- Leidos
- Intuitive Machines
- Karagozian & Case
- KBR
- Kirco Manix
- KODA
- Lockheed Martin
- ManTech
- Nammo-Talley
- Nanoracks
- Nelson Brothers
- Northrop Grumman
- Orica
- Oshkosh
- Parsons
- SAAB
- SAIC
- Spaceport Canada
- Starlab
- Texas A&M
- Textron
- The Exploration Company
- Virgin Galactic
- Voyager Space
- Woolpert
- WSP

Professional Organizations

- American Society of Safety Engineers
- American Society for Safety Professionals
- American Institute of Aeronautics and Astronautics
- Australasian Explosives Industry Safety Group
- European Aerospace Agency
- International Association for the Advancement of Space Safety
- Institute of Makers of Explosives
- International Information System Security Certification Consortium
- International Society of Explosives Engineers
- International System Safety Society
- Project Management Institute
- Texas Aerospace Research and Space Economy Consortium

International Working Groups

- Klotz Group
- NATO AASTP-4 Risk Analysis Working Group

Risk Based Explosives Safety Criteria Team

APT Division Overview

SAFETY ENGINEERING AND ANALYSIS CENTER (SEAC)

Capabilities

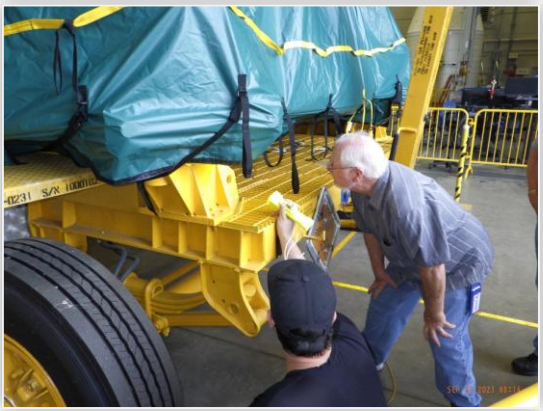
- Comprehensive Safety & Mission Assurance (SMA) Program Services (system/subsystems, payloads vehicles, integrated system)
- Commercial Space, special project, “incubator”
- Risk assessment/management
- Independent assessments
- Independent verification and validation (IV&V)
- Standards development
- Regulatory support
- Tool development
- Support advancement of SMA analyses / methods
- Provide Program Management & Ordnance Operations Support for Ordnance & Explosives-Global Directorate (OEG)
- Workforce development / training:
  - Contributed to NASA STEP Program
  - Provide System Safety Engineering, Software Safety Engineering (including MBSE), Reliability Engineering, PRA, Explosives Safety, Risk Management, Radiation Safety Basics courses

APT Division Overview

GOVERNMENT SPACE DIVISION

Capabilities

- System Safety / Operational Safety
- Reliability & Maintainability
- HW and SW Quality Assurance
  - Certified lead auditors (for supplier / vendor / launch provider audits)
- Operations / flight hardware integration support
- Operational risk analysis and hazard assessment
- Regulatory support (NASA, FAA, OSHA, DoD)
  - NASA NMIS / IRT support



APT Division Overview

COMMERCIAL SPACE DIVISION

Capabilities

- Systems Safety
- Reliability / Availability / Maintainability (RAM)
- Quality Engineering / Assurance
- Software System Safety (IV&V, testing)
- Flight / Range Safety
- Risk Analysis & Management
- Independent Assessments
- Mishap & Anomaly Resolution
- Full Program / Project Lifecycle Suite of S&MA documentation, plans, tailored requirements, milestone artifacts, and phase safety review data packages / deliverables / presentations, etc.
- S&MA processes that align with standard, model-based, and agile system engineering processes
- S&MA Services (subsystems / systems, payloads, vehicles, integrated)

AxEMU
Image credit: Axiom Space

Intuitive Machines LTV "Moon Racer "
Image credit: collectSpace.com

Blue Moon Lander
Image credit: Blue Origin

Starlab Space Station
Image Credit: Starlab Space

APT Division Overview

DEFENSE DIVISION

Capabilities

- System Safety (full MIL-STD-882)
- Quality and Mission Assurance (MDA MAP)
- Flight Safety (test planning / test execution)
- Range Safety (AFSPC 91-710, RCC / EWR specs)
- FTS design / performance assessment
- Hypersonics (range safety documentation, link margin analysis, FAA coordination, etc.)

EXPLOSIVES SAFETY DIVISION

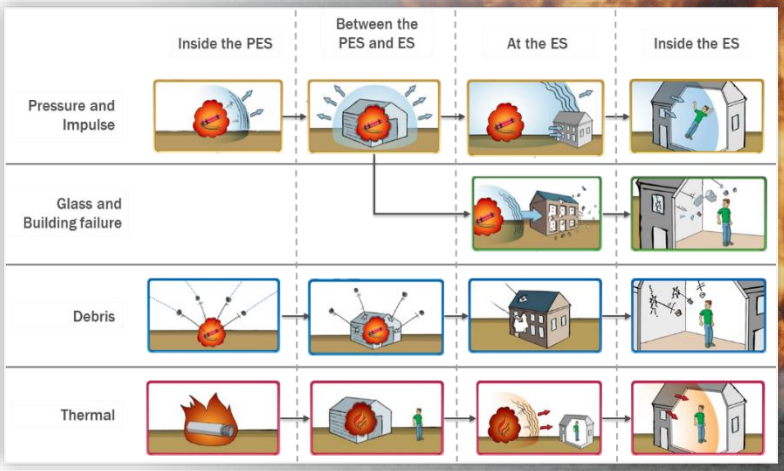
Explosives Safety
Good guys not blowing themselves up

Weapon Effects
Good guys attacking bad guys

ATFP (Anti-Terrorism, Force Protection) & Adversarial Weapons
Bad guys attacking good guys

Capabilities

- Demonstrate / ensure regulatory compliance (e.g., DCMA)
- Explosives safety site planning, including facility utilization
- Explosion effects / consequences modeling and software development
- Explosives test planning, support, and analysis to anchor models
- Quantitative risk assessment (QRA) using APT-developed tools (IMESAFR, SAFER)
- DOT Hazard Classification



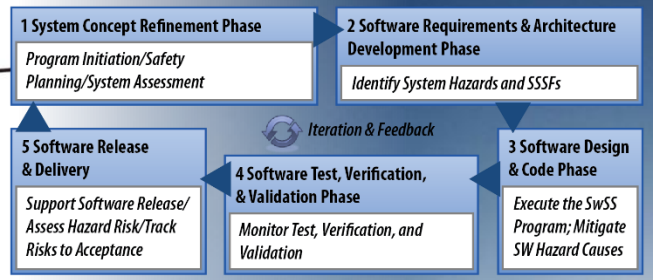
APT Division Overview

SOFTWARE DIVISION

Capabilities

Comprehensive Software & System Safety program services (full life cycle support)

- Software Safety Level of Rigor (LOR)
- Model-based functional software safety
- Software Quality Assurance and IV&V
- Software development and modeling
- Software Airworthiness
- UAV System and Software Safety
- AI/ML safety



Representation only

APT RESEARCH, INC.

- **APT contract vehicles**: EXPRESS, GSA OASIS+ (SB, Technical & Engineering), MDA SHIELD, NAVFAC EXWC, Seaport-NxG
- **APT UEI: C7DUMVV65594**
- **APT CAGE Code: 0S289**

- NAICS codes that APT qualifies as a Small Business:
  - **541715** – R&D in the Physical, Engineering and Life Sciences
    - Except Nanotechnology & Biotechnology (<1,000 employees size standard)
  - **541330** – Engineering Services
    - Exemption 1 - $41.5M size standard

For more information

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Thank you for your time.