Peraton Labs Overview

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About Peraton

- Impacting missions of consequence across the globe…
  - National intelligence collection, analysis & dissemination
  - Full spectrum cyber operations and information dominance
  - Space protection & resiliency
  - Secure, resilient global communications
  - Border and maritime security platforms
  - International coalition strike platforms
  - Hypersonic weapons
  - Foreign Affairs
  - Citizen health and safety
  - Mission-based enterprise IT modernization
- …and deep into the far reaches of the galaxy
  - Human space exploration

~18,000	~50%	20%	70
Employees	Cleared employees ~16% TS/SCI	Military Veterans	SCIFs (53 accredited, 17 under construction)

Peraton Labs Overview

Peraton Labs delivers the future across cybersecurity, communications, mobility, electronic warfare, and analytics to government and commercial customers worldwide

- Organization created in 1984 after the breakup of AT&T and Bell Labs, expanded with the addition of DHPC Technologies, and acquired by Peraton in 2021
- Long tradition of developing innovative technologies
- Extensive research collaborations with elite universities and leading-edge companies and startups
- Leadership positions in 20+ standards bodies and professional organizations

470 scientists, engineers and analysts on staff

25% of our technical staff are patent inventors
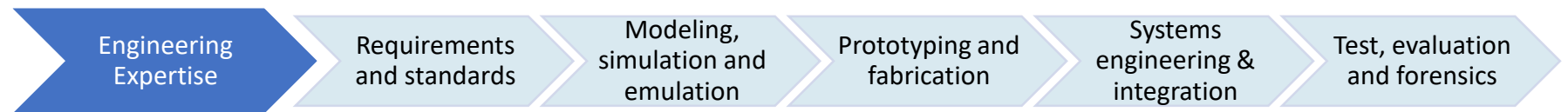
50% of technical staff with master's; 30% PhDs

75% of our technical staff hold gov't clearances

Bell Laboratories
Originally part of AT&T Bell Labs

APPLIED COMMUNICATION SCIENCES
Spun-off as ACS and bought by The SI in 2013

perspecta LABS
Perspecta launched as a public company in 2018.

Peraton | LABS
In 2021 Perspecta is acquired by Peraton, a next generation national security company with ~20,000 employees serving high-consequence missions on a global scale

| 1980 | 1990 | 2000 | 2010 | 2015 | 2020 | 2021 |

Telcordia
Became Bellcore/Telcordia during 1984 Bell System divesture

VENCORE LABS
Rebranded as Vencore Labs after The SI's purchase of QinetiQ North America in 2014

DHPC TECHNOLOGIES
Acquired DHPC Technologies, a leading provider of innovative electronic warfare solutions.

Peraton | LABS

Technical Capabilities Summary

- Majority of staff located in multiple sites in NJ, MD and VA, including:
  -- Basking Ridge, NJ
  -- Picatinny, NJ
  -- Aberdeen, MD
  -- Silver Spring, MD
  -- Fort Belvoir, VA
- Facility in St. Louis for Display Technologies

- Markets served:
  -- Defense & intel
  -- Civilian agencies
  -- Utilities
  -- Transportation
  -- Life sciences

Cyber-security	Electronic warfare	Machine learning and AI	Mobility & wireless systems	Sensors & sensor integration	Optics, photonics & quantum	Networks and operations
Cyber defense and cloud security	EO/IR/RF technology	Machine learning techniques	High performance RF comms	Sensor / laser instrumentation	Optics and optical networking	Network control and service mgmt
Cyber warfare	Attack, protect and counter-measures	Adversarial Machine Learning	Signal processing applications	Spectrum sensing and management	Photonics system design and integration	Network architecture and protocols design
Critical infrastructure protection	Threat detection	Data correlation, fusion and integration	Wireless network management and security	Systems architecture and sensor integration	Applications of advanced laser-based technologies	Software defined networks
Vulnerability and risk assessment	Counter-IED/UAS	Cyber and wireless analytics	Secure mobile comms	Controls and automation	Quantum comms and computing	Network virtualization

Engineering Expertise → Requirements and standards → Modeling, simulation and emulation → Prototyping and fabrication → Systems engineering & integration → Test, evaluation and forensics

Peraton | LABS

Peraton Labs has a long tradition of R&D leadership for Government agencies

- **Top performer at DARPA**
  - Large number of ongoing programs in I2O and STO, e.g.:
    - LINC, CHASE, OPS-5G, GARD, REPO, D3M, RACE, ConSec, FastNICs, SDCPS (I2O)
    - CONCERTO, DyNAMO, LogX, Network UP, SHARE, MINC (STO)
    - Multiple classified efforts (I2O and STO)
  - Other: SAFE-SiM (ACO), CODE, TMVD (TTO)
- **Prime performer on IARPA Trojan AI, COVID-19 seedling program**
- **Multiple large ongoing programs with Army agencies, e.g., DEVCOM C5ISR Center, DEVCOM Army Research Lab**
- **Peraton OPIAS contract (potential transition partner)**
  - Peraton is providing the DoD, USCENTCOM and its mission partners with *operational planning, implementation, and assessment services (OPIAS)* to achieve operational advantages in the information space and to counter threats to U.S. national security

Integrated Global Media Analysis

Integrated Global **Media Analysis (IGMA)** is an Open Source Intelligence (OSINT) solution developed in-house to support Peraton contracts.
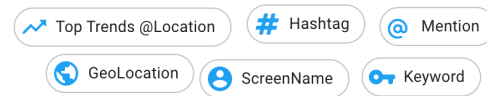
US Army Cyber Center of Excellence
Machine Learning Solution Abstract Award
AFCEA TechNet Augusta January 2021

- ## Data Collection
  ### News Websites
  - Worldwide news sources (more than 20K)
  - Access to full length news articles

  ### Social Media Platforms
  - Twitter extraction filters

  Top Trends @Location | # Hashtag | @ Mention
  GeoLocation | ScreenName | Keyword

- ## Analytics
  ### Multi-Lingual Support
  - Automatic translation into English from all major languages

  ### Named Entity Recognition (NER)
  - Organizations, People, Locations

  ### Sentiment Analysis
  - Overall score and NER association

  ### Topic Detection
  - Mapping to World Bank knowledge domains

- ## Customer Success
  Space & Intel CAP contract (Restricted customer)
  - News data feed for four projects

  Cyber Mission OPIAS contract
  - News data feed for two projects (SOCOM)
  - One year multiple news data feeds (CENTCOM)

- ## Benchmarking Results
  - Two-thirds reduction in level of effort
  - 95% coding accuracy
  - Significant increase in communications analyzed

Advanced Disinformation Analysis Procedures and Techniques

Advanced Disinformation Analysis Procedures and Techniques (ADAPT) is a **proof-of-concept** collection of tools to assist Information Operation (IO) analysts with disinformation (fake news) detection.

▪ Information Operation (IO) Detection

- Illuminate disinformation networks involved in coordinated campaigns, including influencers in temporal latent community networks
- Organize tweets by common themes
- Identify hashtag correlations across time windows
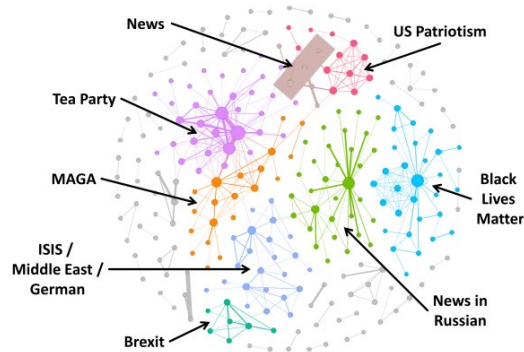- Complement and guide classified collection capabilities

▪ Deep Fake and Manipulated Image Detection

- Detects images generated through AI models
- Detects techniques such as splicing (composite image) and copy-move (conceal an object)
- Identifies portions of images which have been altered

Image Credit: Derek Weber & Frank Neumann arXiv:2103.03409v1

Image Credit: Yue Wu ManTra-Net: Manipulation Tracing Network