

Annotated List of selected MJD-authored (mainly) and TETRAD-related documents

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This document and all materials may be shared with persons who qualify as being serious and reliable people. There are issues and topics of concern for the sake of normal security, national security, and business confidentiality. Material should be shared only with persons who are seriously interested and able to act in a manner leading to near-term support, funding, and collaboration in the form of work that can be done for their organization. Many of the annotated titles here can be downloaded from the web; others can be requested.

This is an Annotated List of materials pertaining to:

- **TETRADYN, LLC (formerly TETRAD Technologies Group, Inc.)** and what we have done, have made, do, can produce and especially, can deliver Today.
- **Nomad Eyes™** - core technology, architecture, product for integrated, stochastically distributed sensors and situation awareness, analysis, alert, and notification in emergency or near-emergency events (CBRNE and other types).
- **CEBIT™ and JEDI™** – classes of sensors incorporating polymer nanofilm-based, microcantilever-based, and immunoassay-based sensing for chem, bio, and including explosive compounds.
- **ECLEAR™** - Emergent Life-Critical Event Awareness and Response – the encompassing solution set into which Nomad Eyes™ and most of the TETRAD work fits.
- **Prototyping and field-testing plans** for TETRAD products or third-party customer late-stage products requiring further validation.
- **Prior proposals** for R&D and implementation of the TETRAD CEBIT tech (CBRNE, esp. counterIED).
- **White papers and published papers and presentations** pertaining to mainly CBRNE sensing and mainly counter-explosives detection and interdiction, counter-IED defensive measures, disaster and pandemic planning, and other emergency management, with a view toward deterrence of ambulatory suicide bombers and shootings as well as IEDs for use against both civilian and military targets.

Mostly oriented towards **public health and homeland security** countermeasure systems

wcdm2007.pps

Presentation at 17th World Conf. on Disaster Management (7/2007) – Rapid response and intervention techniques for high-impact, large-population emergencies.

CUBIT and AwareIntel

Developmental (“sandbox”) portals - Nomad Eyes™ applied to public bioprotection – advance warning, sensing, field apps, situation awareness and response – doing what Biowatch and other biodefense programs mainly talk about doing but are limited by their architectures and scope and other constraints, both technical and managerial, and also for more general personal/neighborhood/community security and awareness (ECP alerts, notifications, awareness, directions for response).

CUBIT_MMVR_Panel_Rev01.ppt

Invited presentation on Biothreat detection, intervention and treatment, delivered at Military Medicine and Virtual Reality conference (DARPA/Stanford/TATRC sponsors; 1/2006).

cbrn_course_module_overview.pdf – Outline of course (workshop format available also) on CBRN threats, prevention, early warning, and response.

From the Paris Sept.,2006 **CBRN Conference**

evolutionary_ied_prevention_sept2006.ppt

Invitational presentation made at an EU counterterrorism conference (Paris, 09.2006). This covers some of the material that is found in more depth in the following three presentations.

coord_resp_biothreats_paris_public.ppt

The public-release version of the other talk given (the full set has a ton of high-res images including from Hurricane Katrina aftermath and can be provided)

Coord_Unified_Resp_Unpredict_Widespread_Biothreats.doc

The published paper that went with the above presentation

adaptive_interagency_CBRNE_paris_public_full.ppt (28MB)

The full presentation for the main talk given.

Mainly on the **Nomad Eyes (ECLEAR)** architecture & technology, homeland security, counterterrorism, WMD, IED

<http://nomadeyes.com>

Top-level for Nomad Eyes™; publicly (albeit limited; pre-funding) operational in demo form.

Increased Vulnerability to Nuclear Terrorist Actions_20july07.pdf – Brief memorandum on why the USA in particular is at an increased risk and way conventional and popularized inspection/detection systems cannot meet the threat adequately.

Overview on Innovative Solutions for IED Protection.pdf – non-sensor barriers and materials for defensive/protective measures against IEDs, esp. EFPs..

TTG_CA_BorderSec_mjd22jun07.pps – Presentation (or the early draft, pre-edits) for Canadian Border Security directorate.

Prepared set of documents for DTRA (J. Tegnalia, P. Nanos, et al) focusing on the CEBIT sensor for explosives, Nomad Eyes™ and addressing head-on the problem of IEDs. Pertinent especially:

- (1) **a_realistic_way_to_neutralize_the_insurgents_and_terrorists.pdf** – applying the Nomad Eyes™ solution in IED arenas. (also online)
- (2) **ain_al_muhaymin_memo2_10feb07.pdf** which addresses use in Iraq. There are other documents covering strategic and tactical plans that have been worked out but these are not put on any website period for security reasons.
- (3) **navy_cied_qc...** several “quad charts” for Indian Head counter-IED group
- (4) **nomadeyes_architecture_overview.pdf** – exactly that, a concise overview
- (5) **Nomad_Eyes_POPE_Outline.doc** which is a description of how to use the modest sum of @ \$500K to do a field test that actually provides ongoing protection during the testing for a public transit system (focus here was on the UK, but applicable to USA)

Mostly sci/tech papers and presentations

mutualinfo_reas_like_assoc_31oct05.ppt

mutualinfo_deformregistration_04aug05.ppt

cmmc2006_pres.ppt - Connecting Dots to Locate and Intercept Terrorist Operations and Operatives.

These three are presentations made at conferences or invited seminars that go into some of the mathematical and computation foundations underlying Nomad Eyes and other “I3” (integrated inverse

intelligence) models within Martin's work and offered through TETRAD. The third one was at a conference sponsored in part by DTO (ARDA). This has real operational foundations. My modeling correctly picked King's Cross St. Pancras as a "key vulnerability site to watch" – and it was not watched enough, thus the London (July '07) terrorist attack success. This work also has a concrete basis in the study of Chechen operations conducted in Russia, studied by me firsthand.

a3_12jul05_v01.ppt

Oriented toward anomaly detection and applicable to civilian, border security, and military apps and audiences. A big presentation plus many non-public "backup" slides covering Nomad Eyes and a "broad+deep" focused plan of development for the analysis of anomalies indicative of terrorist plans and operations (mainly against mass transit and mass population points). Also some remarks on anomaly detection for information security (cyberdefense).

upci_04aug05.ppt

Mainly About I³ and mutual information models, deformable registration, image/sensor recognition, from a medical (cancer) perspective, since that was the audience.

<http://tetradgroup.com/library>

More papers, mostly in physics-related matters. There are more papers and reports on the CBRNE, counterterrorism and emergency preparedness response design than are here; many of these pertain to basic quantum theories, models, and also a track of work in magneto-optic sensing and detection for non-destructive testing and security applications.

http://nomadeyes.com/publicdocs/shocktraumamodel_mmvr2005.doc (.pdf)

Conference paper addressing math approaches to modeling shock and trauma with a focus on mass casualties from natural or WMD disasters. Connected to ongoing work at a network of trauma centers and first-responder programs.

http://nomadeyes.com/publicdocs/SenseNet_mmvr2005.doc (.pdf)

Conference paper on E-Poly and microsensors

formalsystems_countermeas_atyp_encrypt_plan.doc

Table of contents of a paper/book on math models and development of formal approaches to understanding and predicting terrorist-variant ECP (Emergent Critical Processes).

Computer Science and Software mainly

Martin_TETRAD_products_work_IP_expertise.doc

Martin_TETRAD_addtl_comp_sw_web_dod_intel_mainly_projwork.doc

Martin_TETRAD_OpenNet_OSV_vMessaging_MagVision_images.pdf

These links provide many screenshots from recent (software-mainly) work now part of TETRAD and available in one fashion or another for direct application, re-use and/or integration into products. This also serves to demonstrate that we know what we say we know and we can do what we say we can do when it comes to algorithms, software, and systems.

Extending the RMS Paradigm of Model-Based Computing.pdf – on RMS and DRMSO (large-scale multicore parallel processing architectures and algorithms)

Synthesis, Patterning, Forecasting.pdf – also on multicore modeling, algorithms and applications

Z_Vision_Paper.pdf – Overview of Z-world, Z-spaces and sheaths, an enhanced learning-discovery model for true hypermedia and current web information media; the technology and use for consumer and dedicated applications.

**Comprehensive Resources
(Covering not one product but several as a collection for introduction)**

<http://tetrady.com>

The corporate website. Visit to learn the big picture, the historical and “corporate” viewpoint on everything, also about the top mgt. and board, etc. There are links to information on all products, from surface anti-microbial bioprotection to the “Z” software that extends hypermedia, for situation awareness and notification as well as consumer individual uses, beyond current limitations of web thinking. Note who else is in the BOD, and there are others of similar rank and credentials who are “virtually” on board. Also we have extensive very good relations within the Canadian govt. at high levels.

<http://forteplan.com/products>

The Aegis and CareVent and some other articles, papers, reports spanning all of TETRAD’s product and solution range.

new_usn_dahlgren_26oct2006.ppt

A comprehensive introductory presentation delivered at NSWC – many pictures, covering mainly CBRNE and bioprotection.

Oriented toward social service, corporate responsibility, sustainability, humanitarian service and applications of science and technology for disadvantaged communities

<http://ecoasisnetwork.org>

The EcoOasis Project and descriptions of the Pod (Installation) that incorporates several of the MJD/TETRAD+ technologies and products, plus those of certain partners, for use in emergency/disaster and chronic underdevelopment situations. The EcoOasis Pod is also available commercially. There are many photos, specs, and video clips – make a point to see the Public documents section.

<http://forteplan.com/safetynet01.pdf>

Presentation on how Nomad Eyes can be applied domestically to the problems of gang violence, neighborhood safety, and family violence/abuse. Well-received in the community of women’s safety/shelter groups, and also by some state legislators, this is very easy to implement as an “add-on” to the basic Nomad Eyes. The operational economics have been carefully examined.

<http://forteplan.com/sanoysalvo.pdf>

Overview of a program initiated while working for Intel and assigned to their ATM fab in San Jose, Costa Rica, for the benefit of women and children in the impoverished communities.

<http://forteplan.com/afghanwomen.pdf>

Another Intel-era project, a precursor to EcoOasis.

<http://forteplan.com/futgate>

Dormant but resurrectable and reshapable project for internet gaming and education that grew to having 35 schools in 10 countries – modeled after Intel and Westinghouse contests and other academic “Olympiad” events.