Addressing DTRA, DNDO, JIEDDO, TSWG(CTTSO), DTO, DHS, TSA and Related Topics of Interest

The following table was originally prepared in 2008. It describes what can be delivered within the current time frame under terms of an employment or consulting contract. These are examples and do not preclude other variations.

The objective in producing this table is to lead into appropriate fulltime or long-term, stable consulting work; such could be corp-to-corp or on an individual basis with options for bringing in additional resources including people as projects develop.

The central person able to provide and manage the type of services and tasks described here is uniquely Martin Dudziak, martinjd@tetradyn.com, martin.dudziak@gmail.com, 804-740-0342, 757-847-5511, 202-415-7295(cell). Other personnel can be provided to manage small to very large projects, and there is an ability to provide services on more than one of the following tasks in parallel. The aim here is to start with at least one seed contract, project, or set of assigned duties which can then grow into a larger and more productive relationship.

There is only brief descriptive information here, and some of the projects are of a sensitive nature. There are persons currently or formerly within various government agencies, as well as from industry and academia, who can vouch for the utility and soundness of both work performed and projects prototyped.

Codes:

Prior Specific Work

i : Hands-on technical experience, in the lab/field, with instruments and/or weapon systems (D = defensive, O = offensive)
ii : Analysis
iii : Design
iv : Foreign technology evaluation, device assessment, personnel and institutional relations
v : Writing, presenting, and interacting within government/decision-making context

Distinctive Expertise

i : Extended timespan of involvement in the area/topic for more than five years
ii : Relevant Publications and presentations
iii : Relevant Intellectual Property, patents, patentables
iv : Specific foreign-based technical understanding coupled with personal familiarity and accessibility
v : SpecOps/terrorist psychology modeling abilities

Category / **Subcat** / Topic	**Objectives** / Outcomes	**Values** / Customers	Prior Specific Work					Distinctive Expertise				
			i	ii	iii	iv	v	i	ii	iii	iv	v
Critical Infrastructure Prot.												
Vulnerability Assessments	(a) Evaluate, critique, assess other assessments, estimates, risks, defenses, countermeasures; (b) Model and plan intentional and natural attacks and breakdowns; (c) Develop fault-tolerant and fail-safe measures; (d) Design fieldable prototypes and test plans for deployable systems (I) Analytical reports and plans; (II) Technical specs and designs; (III) Fieldable prototypes; (IV) Deliverable (2008-2009) solutions	(see subcategories below)	(see subcategories below)					(see subcategories below)				
Food supply/dist/warehousing	a, b, c, d Focus on PRED, bioweapon and natural bioagents/vectors I, II, III, IV	Protection of public food supply; Fed/State, and private sector (corporations)	DO	x	x	x			x	x	x	x
Electricity power grid	a, b, d Focus on disruptions affecting critical public services I	Reliability of power supply; Fed/State, hospitals, corps	DO	x	x			x				x
Petrochem production and distribution network	a, b, c, d Focus on specific plant and	Safety of plants and inhabited residential	DO	x	x		x	x	x	x		x

	pipeline attacks I, II, III, IV	areas; Fed/State, petrochem producers		
Mass public transit	a, b, d Focus on coordinated underground attacks I, II, III	Reliability and safety of mass transit; Fed/State/Local	D O x x x x	x x x x x
Water supply	a, b, d Focus on disruption at critical times/places I, II, III, IV	Reliability and safety of drinking water supply; Fed/State/Local	D O x x	x x x
Internet Cyberwarfare	a, b, c, d Focus on non-standard asymmetric anomaly and intrusion detection I, II, III	Reliability of internet comms and critical networks; Fed/State/consumers	D O x x x	x x x x x
Category / Subcat / Topic	**Objectives /** Outcomes	**Values /** Customers	Prior Specific Work	Distinctive Expertise
			i ii iii iv v	i ii iii iv v
Design and Development	Refer also to above list			
Nomad Eyes	tuning and adapting to the specific contract interests – note that Nomad Eyes was originally targeting C, B, R, N, E sensing and detection using wide-area, stochastic, asymmetric wireless and wired networks including mobile devices with sensor add-ons	Public safety including for individuals, not only agencies (Extensive number of papers and design work in this domain, applicable to detection of explosives and other contraband)	D O x x x x	x x x x x

Shumeru (Z-World)	redesign as a tool for both D and O purposes	Better tools to use for defensive and offensive ops	x	x	x		x			x				
KERBEROS	investigate existing data havens; develop as a "Venus Fly Trap" (VFP)	Better tools to use for defensive and offensive ops	x	x	x		x	x		x	x			
Futures Gateway	model for VFP purposes	Better tools to use for defensive and offensive ops	x	x	x	x	x	x	x	x	x			
EcOasis	model for VFP purposes	Better tools to use for defensive and offensive ops	x	x	x	x	x			x	x			
IRM and related I^3 maths and algorithms	design and implement into D or O tools	Better tools to use for defensive and offensive ops	x	x	x		x	x	x	x				
E-Fusion	apply for defensive sustainability strategies	Better tools to use for sustainable energy maintenance	x	x	x		x	x	x	x				
CUBIT, RedBioNet, and CRAIDO	while primarily biothreat-oriented, these addressed the medical and social-sustainability effects and measures of "dirty bombs" and mil-standard nuclear weapon blasts in civilian areas		x	x	x	x	x	x	x	x	x	x		
Category / Subcat / Topic	**Objectives /** Outcomes	**Values /** Customers	Prior Specific Work					Distinctive Expertise				
			i	ii	iii	iv	v	i	ii	iii	iv	v
Nuclear Weapons												

Design and Effects											
Design a better compact bomb for targeted blast effects and radiation dispersion	More effective and compact nuclear explosive device; Improved understanding for developing humint and elint countermeasures	Improved portable tactical nuclear weapon	x	x		x					x	x
Incorporate TERANOD concepts to improve weapon efficiency and reduce size (foundations in soliton beam work)	More effective and compact nuclear explosive device; Improved understanding for developing humint and elint countermeasures	Potentially a truly disruptive, breakthrough design for tactical nuclear weapons	x	x	x	x		x		x	x	x
Design and model the use of a variety of PRED devices	Improved countermeasures to prevent assembly, distribution and utilization of mass-effect PREDs	Better ability to respond to and to prevent the most practical terrorist radiation attack	x	x	x	x	x	x			x	x
Design and model the use of a variety of RD (dirty bomb) devices	Improved countermeasures to prevent assembly, distribution and utilization of mass-effect PREDs	Better ability to respond and to prevent the 2nd most practical terrorist radiation attack	x	x	x	x	x	x			x	x
Develop improved rad/nuke countermeasure and response technologies	Focus: surface particle capture and removal, sensing, population control and routing		x	x	x		x			x		x
Develop a physically reliable and environment-safe use of an array of small nuclear devices for use in deep undersea applications for surface-sealing	Named "BottomSeal", this was a model for addressing specifically the Deepwater Horizon oil spill, with interaction among DOE and NTS physicists with underground & underwater test/simulation bkgrounds (some back to 1950's)	A scientifically sound alternative that did achieve a surprising degree of interest from local & regional officials		x	x	x	x			x		

Category / Subcat / Topic	**Objectives /** Outcomes	**Values /** Customers	Prior Specific Work	Distinctive Expertise
			i ii iii iv v	i ii iii iv v
DNDO				
Current US/Allied rad/nuclear sensor technologies and products	Analytical findings, recommended designs, field prototypes	Better and more practical understanding of what is the best, good, and least desirable of options	x x x x	x x x
Current foreign rad/nuclear sensor technologies and products	Analytical findings, recommended designs, field prototypes	Better and more practical understanding…	x x x x x	x x x x x
Other	See above list (previous **Category**) and also last set below			
Category / Subcat / Topic	**Objectives /** Outcomes	**Values /** Customers	Prior Specific Work	Distinctive Expertise
			i ii iii iv v	i ii iii iv v
JSTO Chem-Bio				
Current US/allied chem sensor technologies and products	Analytical findings, recommended designs, field prototypes	Better and more practical understanding…	x x x x	x x x
Current US/allied bio sensor technologies and products	Analytical findings, recommended designs, field prototypes	Better and more practical understanding…	x x x	x x
Current foreign chem sensor technologies and products	Analytical findings, recommended designs, field prototypes	Better and more practical understanding…	x x x x x	x x x x
Current foreign bio sensor technologies and products	Analytical findings, recommended designs, field prototypes	Better and more practical understanding…	x x x x x	x x x x

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			i ii iii iv v	i ii iii iv v
Other Current Opps				
Complete translation and editing of major 3-vol. Russian study (@ 1,400 pages total) on chem and bio weapons programs, mostly all classified and formerly secret archives	Publication in English with options to contour the material to more than one type of audience	New information not heretofore available or in cogent form; authentic and real archival data	I am working on this now, but the project is on hold due to funding issues	Direct relationship with author and others
اعين ال مهيمن A'in Al-Muhaymin	A project to implement CEBIT explosives-specific sensors using widely-dispersed wireless and RFID base technology among civilian populations in a culturally acceptable protocol within the Middle East (spec. Iraq, Afghan.)	Obvious; this had strong voices of support from many active field personnel in military and intel communities	Ample and sufficient	Ample and sufficient
Operation Al-Muqaddim 	A proposed project to apply some above-mentioned technologies (including dRAKE, originally designed for anti-piracy) plus a Humint-based operation for detecting, tracking, and circumventing the transport of contraband nuclear materials along a specific set of routes for use in "dirty" or "hot" nuclear terrorism in EU, Israel or USA	Obvious; this had strong voices of support from many active field personnel in military and intel communities	Ample and sufficient	Ample and sufficient
PALLAS and P4	Use of social networks and youth-oriented internet and media	Obvious; this had strong voices of	Ample and sufficient	Ample and sufficient

	resources for predictive forecasting and circumvention of terrorist or terror-like acts of violence (WMD or lesser tech)	support from many active field personnel in law enforcement (FBI) communities		
QUAD CHARTS	Several applicable quad charts describe related projects and proposals, particularly for CTTSO (formerly TSWG), DHS, DARPA, Navy, and Army	Available in more detailed discussions	Ample and sufficient	Ample and sufficient