



PROTECTING CRITICAL INFRASTRUCTURE WITH SCIENCE

A White Paper and Associated Professional Services

About The ATRiM Group

The ATRiM Group LLC is a consulting firm specializing in anti-terrorism and crime threat reduction through training and critical infrastructure protection. It is the only firm of its kind to apply crime prevention science. We conduct threat risk assessments and introduce behavioral science for pre-event detection and post-event response strategies.



A new generation of methods and crime prevention science is now available to remove opportunities and eliminate environmental factors contributing to terror and crime threats. This paper introduces new insights from behavioral science that ATRiM provides to our clients. We describe how our external and internal threat risk assessment differs from others and the type of services we offer.

The ATRiM Group transforms the new prevention science into practical strategies for our clients. Transform-Security consulting, education and training uses self-directed and organizational learning (Senge et al, 1994) to introduce prevention science to critical infrastructure. The result is an approach to security that is robust, innovative, adaptive and evidence-based.

The Threat Risk Environment

- ✓ *Exogenous¹ Threat Assessment for external critical infrastructure*
- ✓ *Endogenous² Threat Assessment for internal environments*

✓ ***Exogenous Threat Assessment for External Critical Infrastructure***

Terror and Crime Threat Assessment

Crime emerges in neighborhoods from a myriad of social, economic, and psychological dysfunction. Terrorism may have these dimensions, but with a different motive and modus operandi. Either way, crime prevention science offers tangible strategies for enhancing protection against both acts of crime and terror.

Eighty percent of critical infrastructure is owned and operated by non-military resources. Prevention of terror attacks is a relatively new field and since the military doesn't often share specific threat mitigation tactics such as blast effects or chemical plume dispersion, both the private sector and the wider community remain at risk.

In many respects, especially regarding anti-terrorism, security is underachieving. This is particularly the case with critical infrastructures like financial institutions, public utilities, medical and educational facilities. There remains great potential for catastrophic vulnerabilities in such infrastructures.

The good news is an emerging crime prevention science that offers new ways to minimize threats posed by terrorists. In 2004 members of our firm began transforming this science starting with the *Anti-Terror Risk Infrastructure protection Matrix - ATRiM™* - for minimizing critical infrastructure risks of physical properties. It is computerized risk model based on crime prevention through environmental design that assesses risks in a comprehensive and systematic fashion. ATRiM™ audits provide a tangible strategy for prioritizing risk and enhancing the prevention at any given critical infrastructure.

We offer external risk assessment auditing of critical infrastructures and a range of mitigation strategies including crime prevention through environmental design.

¹ External human-centered terror and other crime risks (i.e. acts of terror, mortgage fraud, false personation, synthetic identity fraud)

² Internal employee and contractor risks (i.e. occupational fraud, workplace sabotage, workplace violence)

Endogenous Threat Risk Assessment for Internal Environments

Occupational Fraud, Workplace Sabotage and Workplace Violence Threat Risk Assessment

Following our successful development and application of the ATRiM™ model, we expanded our services into internal threats. Our view is that more attention was required regarding the combined impact of both the physical and social conditions within the threat environment. We analysed recent developments in emotional intelligence and behavioural science to transform that science into practical strategies.

With few exceptions people have an internal moral code that, when confronted, leads to personal stress. To relieve this stress, some people rationalize illicit behavior. Both the external business environment, the world where executives compete, and internal environment, shapes the choices employees make. To assess the extent to which these factors trigger risk, the ATRiM Group occupational fraud risk assessment expands conventional risk assessment to include environmental conditions internally and externally. A new generation of harm reduction strategies incorporates the latest insights from behavioral and social science on how people innately form judgements and make complex-decisions.

What discoveries from behavioral science tell us:

- Heuristics biases (cognitive shortcuts) impede sound risk decision-making (Schneider, 2016)
- The brain's automatic/experiential processing system is the center for encoding and retrieving long term memories. It processes information below levels of conscious awareness. The system is both fast and frugal (Khaneman, 2013)
- Risk is mostly a feeling (Slovic, 2010)
- People have difficulty accurately assessing risk outside person threats and especially with large numbers (Slovic, 2010)
- Everyone is susceptible to cheating a little bit. When people see others cheating their cheating goes up. When they are reminded of their morality, or they feel they are being watched, cheating goes down (Ariely, 2012)
- Thinking about revenge is innate. Studies show most people believe revenge will made them feel better. People plan revenge when feeling unjustly treated. They carry through with revenge when it is morally justified (Bloom, 2001). Vengeful acts include workplace sabotage and, in the extreme, workplace violence

We offer occupational internal auditing for assessing workplace risks and harm reduction strategies to minimize risk.

Personal Growth and Skills Development

- ✓ **Emotional intelligence:** Training to regulate affect (emotional triggers)
- ✓ **Deception Management:** Countering false personation, synthetic identity fraud and other documentation-based frauds (i.e. mortgages, resumes) in work safe environments
- ✓ **Ethical internal Inquires and Investigations:** Getting the information needed in ways employees feel it is fair and just

We offer personal growth workshops for improving employee focus, judgment, risk assessment and decision making.



Emotional Intelligence Workshops
Improved focus, judgment and decision-making

Emotional intelligence research on cognition reveals the profound affect emotions have on behaviour. The ATRiM Group has professional development training and assessment tools to deploy this research so our clients can help their employees stay aware while performing repetitive tasks, improve skills in perception, and enhance complex decision-making when under stress.

What discoveries from emotional intelligence tell us:

- Emotions have a major impact over behaviour (Salovey, Mayer, 1990; Sapolsky, 2014), and perceptions (Zadra, Clore, 2011)
- Emotions cloud judgment and complex decision-making (Clore, Huntsinger, 2007)
- There are effective strategies that enhance decision-making, self-awareness, and how to handle difficult conversations (Bradberry, Greaves, 2009)
- Mastery of self awareness and emotional competency improves job performance (Druskat, Sala, Mount, 2006)

We offer skills development training to develop emotional intelligence competencies, self-awareness tactics, and conflict resolution.



**False Personation, Synthetic Identity and other
Documentation Fraud On-line training**
Shifting focus from documents to the bearer

Security is layered to avoid single points of failure. ATRiM AdvanceGuard™ is a model for detecting false personation, identity and other document fraud. It sends a message of vigilance to deter some attacks before they occur and, secondly, increases the certainty attackers are caught in the act.

Consider this: Documents presented to your employees may be stolen and in the wrong hands. But they may also be genuine documents (a legal driver's license with a photo and biometric data of the user), but fraudulently acquired in the first place (obtained with false ID at the point of issue).

ATRiM's on-line AdvanceGuard Interviewing and AdvanceGuard Reliability Assessment™ training addresses these issues. Since most identification handlers do no better than pure chance at associating the picture on a photo ID with the bearer, AdvanceGuard focuses attention on declarations and statements to assess deception. These are invaluable skills for preventing illicit access. Our goal is to help instill confidence in our AdvanceGuard™ graduates so they can escalate concerns about potential threats based on modern prevention science.



Ethical Inquiry and Investigative Interviewing Workshops
Escalated Event Referral Officers and Internal Investigator Courses

When employees and contractors are suspected of doing illicit acts an internal inquiry may result. This standard response to get at the truth has many consequences. Employers must also be aware of the message being sent throughout the whole organization. Others are watching and assessing the fairness and justness of their colleague's treatment. When people feel unfair/unjust treatment, one unintended consequence is vengeful behavior; workplace sabotage among others. How interviewers³ conduct the interview has profound impact on employer/employee relationships. Colleagues watch how their friends are treated under suspicious circumstances.

³ The ATRiM Group reserves the term "investigators" to civil litigators, regulators and law enforcement officers who are the next level of investigation and use powers conferred by civil deposition and the powers of search and seizure in legal proceedings. Of course, nothing arrives at that more advanced level unless detection strategies work in the first instance and that is the target of ATRiM programs.

ATRiM Group's Ethical Inquiry and Investigative Interviewing workshops are uniquely tailored for conducting internal inquiries with techniques that are less aggressive than often practiced in law enforcement, that work, and facilitate seamless escalation of uncontaminated information when concerns are referred for civil and/or criminal proceedings.

Transferring KnowHow

- ✓ **Design:** *Engaging executives, employees and other stakeholders in the generation and post-conference implementation of security protocols and procedures which include behavioral and crime prevention science*
- ✓ **Action-research:** *Working with employees and stakeholders to develop the sequence of steps and activities to perform in developing intervention strategies for situational specific risks*

Futures Search Conferencing (2.5 days)

The Futures Search Conference is a proven process for making it possible for any workplace environment to thrive on chaos; that is, facing uncertain or turbulent times. Used around the world for over 50 years, Future Search Conference participants set new policy directions by finding common ground on seemingly diverging opinions and issues. It identifies the direct relationships with larger environments, such as terror threats, and formulates plans to adopt new science, changes in global social/economic environments, geo-politics and the communications superhighway to name a few.

The ATRiM Group Future Search Conference facilitates dialogue for a designed security future, incorporating behavioral and crime prevention science through employee and stakeholder engagement. Representatives of all levels of the organization and stakeholders band together as a planning community. Participants develop the personal relationships necessary to sustain post-conference transformation.

Action Research Workshops – Designing Adaptive Plans

ATRiM facilitates action research to both create adaptive security plans and then move the security transformation plan forward. Action research is applicable to both external and internal fraud and other crime threats. It is a technique for solving immediate problems and for instituting a reflective process of problem solving.

One of our workshops includes an abuse and fraud threat problem-solving model uniquely designed for health care and insurance claims payment systems. ATRiM subject matter experts and associates consult to-the-need at workshops implementing abuse and fraud specific controls. With its origins in crime prevention science (Saville 1998: Sparrow, 1996), ATRiM employs a four stage process to identify abuse and fraud attacks, determine the root causes, identify and implement interventions and post implementation monitoring. ATRiM also helps our clients build a body of best practices to transform their workplace into an advanced learning organization.

ATRiM Group Partners and Associates

Gregory Saville is a partner and international consultant specializing in crime prevention science. He is a criminologist and specialist in crime analysis and prevention, crime prevention through environmental design and advanced methods of problem solving. He has been consultant to the Royal Canadian Mounted Police, the U.S. Department of Justice, the Japanese government, and he has trained police and military from a number of countries. He has authored many studies and articles on crime, police problem solving, and problem-based learning. He is a founder of the Police Society for Problem Based Learning, and a founder/distinguished lifetime member of the International Society for Crime Prevention through Environmental Design. He is a registered Canadian Urban Planner and a former Police Officer with the Peel Regional Police.

John Lyons is a partner specializing in fraud controls and security problems. He is a certified fraud examiner drawing on twenty-eight years in policing and law enforcement, five years investigating private sector property and casualty insurance claims, and thirteen years consulting on health care misuse, abuse and fraud. His policing/law enforcement experience includes uniform policing, coordination and support of international criminal investigations and extraditions, heritage property theft/fraud subject matter expertise and risk assessment for museums, secondments to the Air India Task Force, foreign dignitary and embassies terror threat risk assessment and the U.S. Marshall's Fugitive Investigative Strike Team in Miami, Florida, design/delivery of the Canadian Police Training Assistance Program in Central Europe and Southeast Asia, and design/delivery of national training strategy on problem-oriented policing. He is a Certified Fraud Examiner.

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