Health, Safety, Environment and Quality

New Frontiers in OHS

Helping Organisations in Maturing their Safety Systems

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Prepared by:

Dr Robert Long
Director
Human Dymensions
10 Jens Place
Kambah ACT 2902

Contact:
Mobile: 0424-547 115
Email: rob@humandymensions.com

ABN: 34 123 347 080

Human Dymensions
ABN: 34 123 347 080

10 Jens Place
Kambah ACT 2902

Contact:
Mobile: 0424547115
rob@humandymensions.com

Advancing New Frontiers in OHS

Maturing Safety Systems

This document provides an overview of a safety systems maturity approach to developing the safety journey in organisations. All organisations develop in life cycles and progressions. The developmental life of an organisation can be compared to the development of any organism and in an holistic sense can mature or stagnate depending on a range of influences in leadership, history, crises, management styles, human resource management, culture and organisational life.

A safety systems maturity approach to OHS recognises the fundamentals of systems maturity modelling as applied to the development of the Total Safety Organisation (TSO - Weick). The safety systems maturity approach to OHS assesses where an organisation is on the journey to becoming a TSO, maps the cultural drivers of safety culture and targets interventions at the stage of maturity most relevant tothat organisation. This approach does not presume that there is one packaged approach to safety systems development but rather that safety sytems are "situated" and that much of the new frontiers in safety systems are in the human and cultural dimensions or organisations. This is the approach of Human Dymensions Pty Ltd as is outlined in this document.

1. About Human Dymensions Pty Ltd

Human Dymensions Pty Ltd is a National consultancy and training company which has successfully delivered OHS programs to Building and Construction, International and National Mining, Government and Manufacturing for the past 7 years.   Human Dymensions specialises in the development of organisations and people through a better understanding of human factors at work. Human Dymensions has particular expertise in organisational psychology, safety development, people management, strategic thinking, learning and solutions-focused assessment.

Human Dymensions has developed a range of training programs, interactive tools and evidence-based interventions which enhance workplace safety, workplace performance and organisational development. Some of these tools are:

- Human Dymensions iProfile Safety Culture Survey
- Culture Leadership, Organsaisational Managment Survey (CLOMS)
- Focus Group Facilitation (using World Cafe, Keypad and Research)
- Organisational Psychological Profiling (eg. Majors 16PTI, DiSC)
- Training in Frontline Management (Accredited)
- Psychological Risk Observation and Competency Training (PROACT)
- Interactive Rapid Interface (iRIM) Research and Assessment
- Cultural and Values Framework Analysis and Training
- Person-to Person (and Online) Leadership/Management Training and Coaching
- Skill Development (Projects, Communications, People Managment)
- Health and Well Being consulting and training
- Strategic thinking, coordination and facilitation

The Director of Human Dymensions is Dr Robert Long.

2. The Foundations of Safety Systems Maturity

All organizations want to improve safety performance relative to their competition and their own record. However, there can be much debate about how to do this. The basis of the debate is usually dependent upon individual views and experience regarding improvement. The challenge is to bring all this energy and experience together to create a shared vision and path forward. Differences in orientation, in many cases, come from the fact that sites within a typical organization are usually operating at different levels on a maturity model. The maturity of an organization, just like a maturing child, must pass through certain experiences in order to become a productive adult. A particular maturity level can be determined by certain attributes that have been shown to correlate with improved performance.

All organisations interested in safety want the same thing, they don't want anyone to be hurt. Injuries, whether physical or psychological, rarely bring pain to the just an individual. Injuries always have a domino effect and so the pain flows on to family, friends, business, organisations, employment arrangements, insurance, medical and therapeutic services. Any business that has regard for their employees and their families wants the best for them, it is also in business interests that they see employees at work the next day. Business interruption and disruption is costly and has a domino effect and so the disruption flows on to morale, confidence, negativity, scepticism, double-speak, motivation and unethical practice. These are the values which are sometimes evident in sub-cultures in organisational safety culture which invisibly work against change, development and innovation.

3. Safety Systems Development

The beginning of safety systems is the administration of the system itself, it is the stage where an organisation says to itself, "we have to get organised about this". The management of safety, health, environment and quality is essentially about control and as the system matures an organisation realises that continuous improvement is about enhancing and expanding those controls. This is explained in the following diagram.
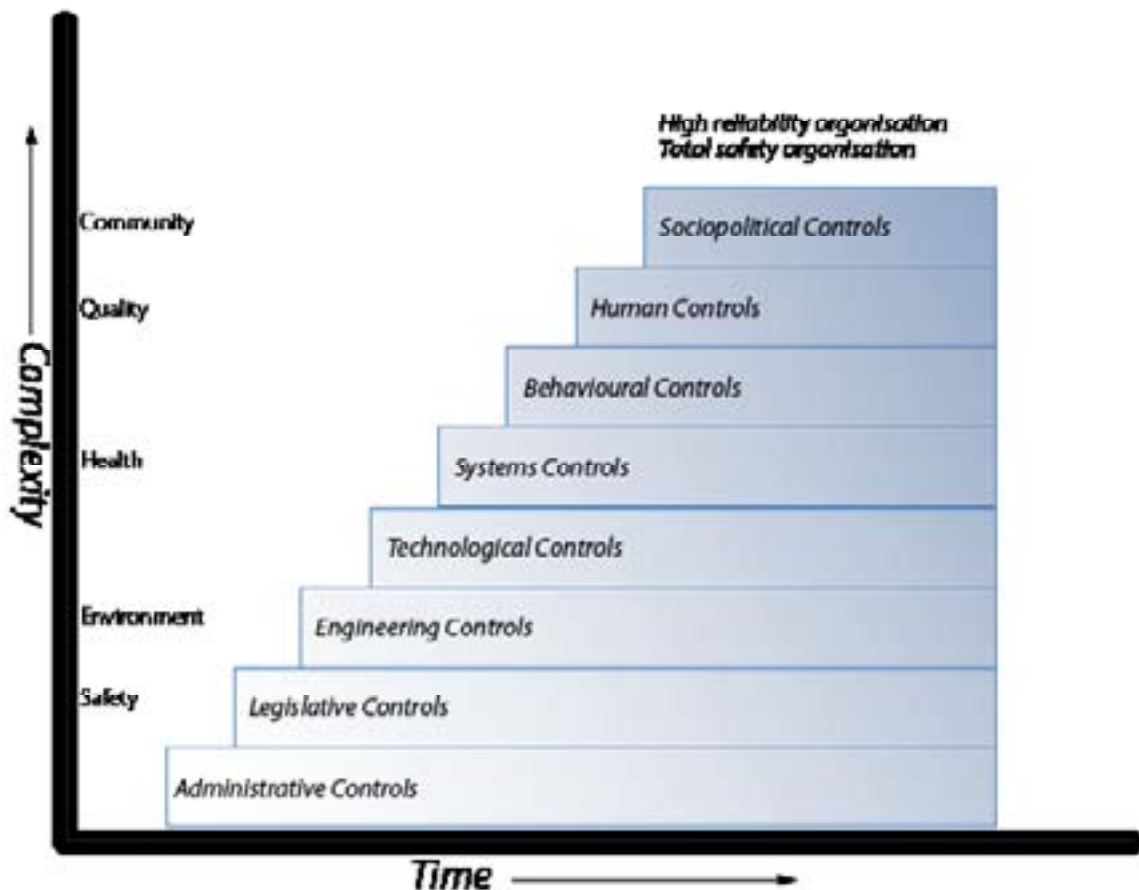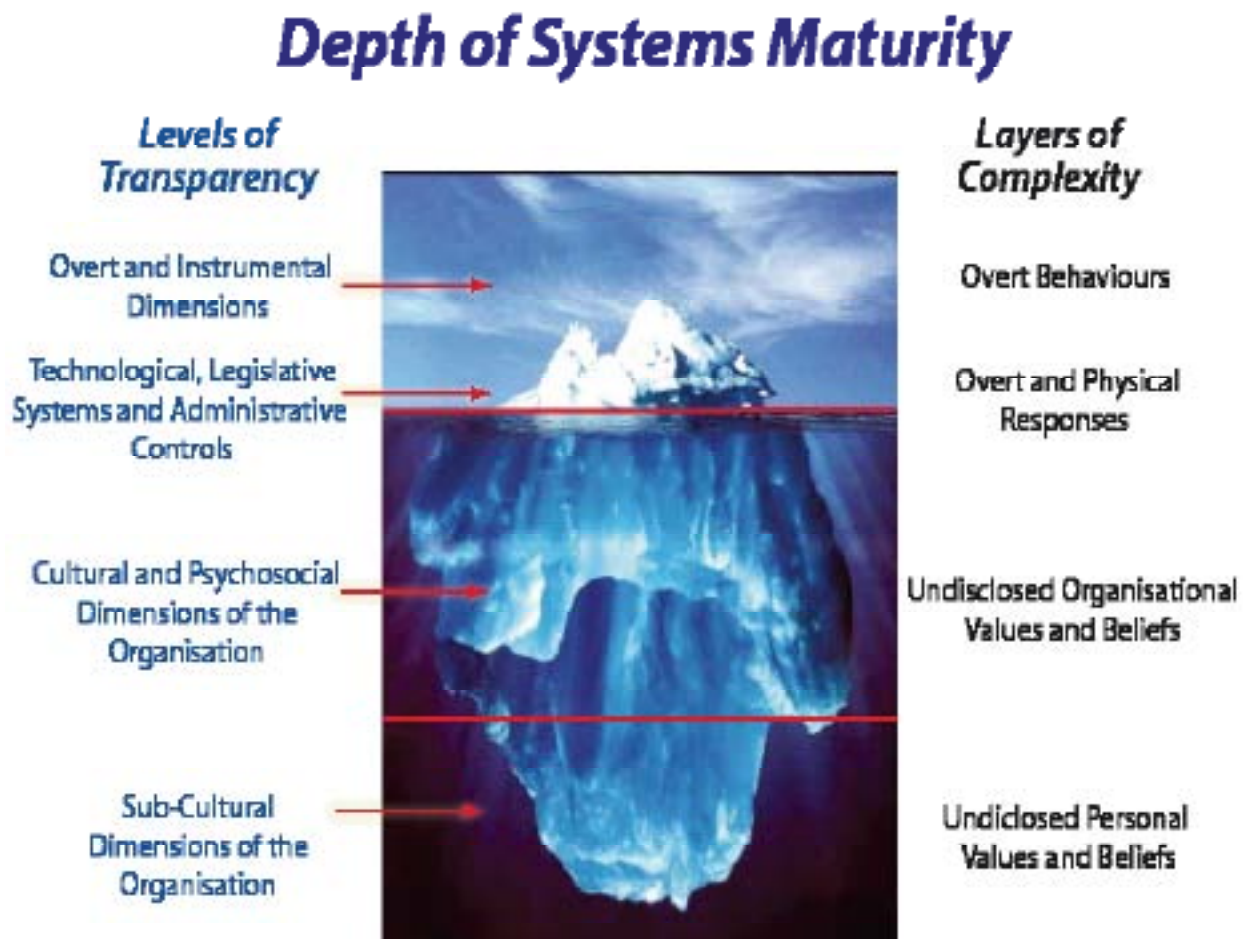
4. Maturing "Above and Below the Line"

As the system and organisation develops so too does the complexity of response to organisational demands in safety. What was once a useful approach to safety control and management actually becomes insufficient to handle the complexities of organisational dynamics. As the organisation develops and endeavours to improve safety performance so does the complexity of demand increase to find new margins of performance.

The beginning stages of safety systems development tend to focus on the physical elements of safety and the more mature stages tend to focus on the human and less tangible elements of safety, what some experts have labelled safety "above and below the line". The more complex elements of safety are invariably to do with culture and the psychology of risk and the more fundamentals stages of safety to do with the elimination of physical hazards and associated risks. The following diagram helps explain the complexity of systemic change "below the line".

The programs and services of Human Dymensions focus primarily on what happens below the line, on the psychosocial and cultural drivers of safety.

Depth of Systems Maturity

Levels of Transparency
- Overt and Instrumental Dimensions
- Technological, Legislative Systems and Administrative Controls
- Cultural and Psychosocial Dimensions of the Organisation
- Sub-Cultural Dimensions of the Organisation

Layers of Complexity
- Overt Behaviours
- Overt and Physical Responses
- Undisclosed Organisational Values and Beliefs
- Undisclosed Personal Values and Beliefs

5. The Need to Affect Safety Culture

In recent times it has occurred to coronors at inquests, auditors and government (eg. Cole Commission) that poor safety culture has a central role in normalising unsafe practice. The development of the Federal Safety Commission in the construction industry (with one of the highest rates of injuries to workers) was to address the issue of safety cultural change. Inspectors and auditors are now ever mindful that despite physical, technological, engineering, administrative and legislative measures to control safety, people are still being injured at work.

These five controls in themselves are not the complete story about safety. Research by Geller, Reason, Slovic, Barling, Frone, Wilde, Rougton, Mercurio, Weick and many safety experts established that a high percentage of incidents and accidents are caused by unsafe practices entrenched and normalised by poor safety culture.

OHS sub-cultural trends by organisation, divisional, business unit, group and individual mapping of psychological type. The analysis is by 10 core safety cultural categories each grouped in 4 sub-themes which allow quadrant mapping of results according to psychological type, OHS leadership The organisations which focus on the five controls **and culture** are what Weick calls "High Reliability Organisations" and "Total Safety Organisations".

6. Diagnostic process, key steps

The Human Dymensions iProfile Survey can be delivered on its own or can be embedded in with the Safety Observations and Conversation Training Program.

2.1 SURVEY MODIFICATION – Human Dymensions iProfile Safety Culture Survey

The first step in the proposal is to modify the Human Dymensions iProfile Safety Culture Survey to styles, service delivery methods and competing values.

2.2 CONDUCT iProfile SURVEY - Data Collection

Using interactive keypads and focus group methodology visit all Baulderstone Hornibrook sites and conduct the iProfile (in person) gathering quantitative and qualitative data. Conducting the iProfile on site enables better results and using the keypads overcomes any issues with literacy levels or qualification of statements. The number of site visits will be contingent on access and job locations.

2.3 ANALYSIS OF RESULTS - Data Diagnosis

Using the structure of the Survey to assess and analyse key OHS sub-cultural drivers as indicated in iProfile data, focus group and individual responses. The sophistication of analysis is determined by the expertise of the Human Dymensions Research and Reference group (Dr Robert Long, Dr C. Barnes, Mr B. Price). Analysis of the data is undertaken by experts and unlike other Safety Climate Surveys **is not computer generated.**

2.4 REPORT WRITING - Development of Reports

With the analysis of the data undertaken the Report is written by Dr Robert Long this process is the most time consuming, resulting in a Full Report in excess of 250 pages and Executive Report of 10 pages.

2.5 PRESENTATION of FINDINGS - Report Presentation

Presentation of iProfile Report in several formats including Full Report, Executive Summary, Abdridged Report and Keynote Presentation.

2.6 CONSULTATIVE DESIGN *Setting the OHS Strategic Direction (4 Hour Workshop)*

Following the presentation of findings and recommendations of the iProfile™ Report, Human Dymensions will consult with all key stakeholders regarding responses, current OHS development planning and possible ways forward in OHS improvements. One outcome of this design stage will be the consideration of specific programs based on the recommendtions. The following pages provide an outline of potential program options as determined by Survey results.

7. The Human Dymensions iProfile Safety Culture Survey

The Human Dymensions Safety Culture Survey is a multi-factorial and cross-correlate survey designed by Dr Robert Long based on the extensive work of leading OHS expert Prof. Karl E. Weick. The Survey evaluates the core sub-cultural drivers in safety culture which often remain hidden yet drive the way organizations conduct OHS.   The Survey uses Keypad technology and focus groups using 40 statements across 10 OHS themes and is able to diagnostically assess OHS attitudes, values, beliefs and safety psychological constructs at all levels of the business. The keypad process whilst completely anonymous is able to pinpoint OHS sub-cultural trends by organisation, divisional, business unit, group and individual mapping of psychological type.

The analysis is by 10 core safety cultural categories each grouped in 4 sub-themes which allow quadrant mapping of results according to psychological type, OHS leadership styles, service delivery methods and competing values. The following disussion explains the 10 core indicators and drivers of safety culture and what is assessed by the iProfile Safety Culture Survey.

1. Safety Leadership (Leadership Values)

Since the 1980s the concept of culture has become the dominant concept used to understand patterns of organisational conduct. As a part of this focus on organisational culture there has developed a new wave of interest and research into the areas of management and leadership in organisations.

Leadership in organisations is not just the technical decision making but the strengthening of organisational culture. Leadership generates commitment and develops the management of meaning and as such has a profound impact on people's perceptions. The skillful management of symbols and language are the tools of trade for effective leaders.

2. Safety Preparedness (Mindfulness)

The measurement of mindfulness is a critical category in the Survey and is strongly cross factored with 4 other safety cultural categories in the Survey. Safety Preparedness (Mindfulness) is much more than simply "having your wits about you" in a similar way that Sensemaking is much more than just making sense. Mindfulness is the key to managing workplace safety through:

- Preoccupation with failure
- Reluctance to simplify interpretations
- Sensitivity to operations
- Commitment to resilience and,
- Deference to expertise

3. Safety Thinking and Practice (Cognitive Dissonance)

The idea of Cognitive Dissonance is counterintuitive and explains why safety initiatives sometimes have a reverse effect. An understanding of cognitive dissonance plays a critical part in the capacity to change culture. Cognitive dissonance is concerned with situations which confront groups holding strong convictions which are confronted with clear and undeniable disproof of those convictions. The theory maintains that even when groups are confronted with falsifying evidence they seem to respond with an increased belief in the original conviction. This why some safety programs in organizations can have the opposite effect than what was intended.

The Cognitive Dissonance cycle begins as individuals form unconscious and conscious anticipations and assumptions, which serve as predictions about future events. Subsequently, individuals experience events that may be discrepant from predictions. Discrepant events, or surprises, trigger a need for explanation, or post-diction, and, correspondingly, for a process through which interpretations of discrepancies are developed. Interpretation, or meaning, is attributed to these surprises.

So it is that people construct frameworks in order to explain, understand and comprehend the stimuli which surround them. When they experience stimuli which does not fit into that framework or cognitive map

they experience a sense of Cognitive Dissonance and either reframe their thinking or make the stimuli fit their thinking. This is why interruption, novelty, surprise or "turbulence" is so important in the scope of understanding how people make sense of their work and safety at work.

4. Safety Influences (Psychosocial Triggers)

The measurement and detection of Psychosocial Triggers are an important part of the iProfile Safety Culture Survey and are questioned in three categories – Safety Systems, Core safety Vision and Safety Priorities and cross linked to the categories of Cognitive Dissonance and Leadership. These statements provide key indicators on issues of "groupthink", pressure and influence.

5. Safety Systems (Sensemaking)

A system is a set (with common properties) of interacting units with relationships among them. The state of each unit it constrained by, or conditioned by, or dependant on the state of the other units. The affirmation that systems are always tight and responsive is not the focus of the methodology adopted by Human Dymensions. Systems in organisations also have delays, lags, irregular feedback and erratic behaviours. The emphasis in the loosely coupled system is on inter-sub cultural (tight) and intra-sub cultural (loose between) connectedness, this is the focus of the Human Dymensions systems methodology and is evident in iProfile Survey statements and analysis. A loosely coupled systems approach still asserts that there is a system (with goals and structures as well as flexibility and innovation) but that a loosely coupled system is more able to learn, develop resilience, sensemake, develop mindfulness and manage sub-cultural cognitive dissonance.

6. Core Safety Vision (Safety Congruence)

The core safety vision of any organization needs to be properly understood especially in light of what cultural and sub-cultural drivers that might be at work in their organization. It is possible that the very method of intervention and deployment of safety may create sub-cultures which indeed mitigate against the effectiveness of what is intended by implementing the desired OHS system.

7. Safety Priorities (Safety Judgement)

The perception of variation in safety priorities is often when the issues of "double speak" and cognitive dissonance come to the surface. This is because there is often a gap between espoused theories (what is said) and theories-in-use (what is practiced). There are a range of statements threaded throughout the Survey, which assess the presence of this gap.

8. Safety Learning (Resilience)

The four sources of Safety Learning (Resilience) are:

- Improvisation and bricolage
- Virtual role systems
- The attitude of wisdom and,
- Respectful interaction

Resilience is important because it explains why people under pressure and stress regress to their most habituated ways of responding. The last thing to expect under pressure is creativity. Role Systems are critical to the development of exit plans and risk management. Wisdom is where there is extreme confidence balanced with extreme caution in times of change, particularly when complex sensing is required. The Attitude of Wisdom is much more than the collection of experience.

9. Safety Competence (Commitment)

An essential aspect of resilience is the maintenance of an ongoing commitment to improvement. Improvement encompasses learning in self-knowledge, relational knowledge, content knowledge and to act in a mindful thinking mode (sensemake). All of these factors are measured in the Survey categories of Resilience and Commitment and are cross factored with the categories of Safety Systems and Safety Priorities. Commitment is a reference point for sensemaking. Normally when people act their reasons for what they do are either self-evident or not observable. Ownership is a critical part of commitment.

10. Safety Actions (Risk and Communications)

The Risk category is cross factored with the categories of Cognitive Dissonance, Mindfulness and Safety Priorities. The psychosocial approach to safety argues that Risk is both determined personally and socially. Risk is directly related to whether the organisational culture is an "informed culture". It takes four subcultures to ensure an informed culture, these include:

- Reporting culture
- Just culture
- Flexible culture and,
- Learning culture

These subcultures are the focus of the Risk Category in the Survey.

8. Advanced Safety Training Development

Setting the OHS Strategic Direction

Following the presentation of findings and recommendations of the iProfile™ Report, Human Dymensions will consult with all key stakeholders regarding responses, current OHS development planning and possible ways forward in OHS improvements.

One outcome of this design stage will be the consideration of specific programs based on the recommendtions. Human Dymensions offers its expertise in facilitation to assist stakeholders to develop a safety improvement program.

9. Human Dymensions Programs and Services

The key focus of programs and services for Human Dymensions is on the cultural and psychosocial factors in the workplace which operate "below the line". The following outline of strategies and activities provides an outline of this approach.

Strategy	Focus/Activity	Outcome
Human and Organisational Behaviour	1. Personality type, risk and OHS (Mitroff) 2. The nature of motivation 3. Positive psychology 4. Perception and cognition	1. Understand relationship between key psychological dispositions and safety culture and safe/unsafe behaviour
Leadership Skills	1. Authority and compliance 2. Nature of how people learn 3. Power and politics at work 4. Language and communication review	1. Developing influence and competence through respect and skills development.
Tools for People Management	1. People in groups 2. Safety cards, Risk calculator, Profile tools 3. iThinking tools 4. Operant and classical conditioning 5. DiSC and MBTI tools in safety culture analysis	1. Group Dynamics 2. Developing "buy in" 3. Understanding resistance 4. Using diagnostics to better manage a crisis
In Depth OHS Development	1. Safety culture in organisations. 2. Safety Culture Analysis tools 3. Workshop (workbook exercise) 4. Safety Observations and Conversations training	1. Apply knowledge of Psychology of Safety and BBS to workplace context.
Advanced Organisational Culture Workshop	1. Competing Values Framework 2. Safety sub-cultures 3. PROACT Program	1. Understanding core drivers in behaviour and change
Quality Management	1. Continuous improvement 2. Understanding how to assess an evaluate 3. Monitoring, reporting and documenting 4. Journals, keeping records, minutes and note taking	1. Fundamentals in TQM
Health, Environment and Community	1. Principles and practice 2. Sustainability 3. Legislation 4. Responsibility and image	1. Understand core responsibilities in OHSEC.
Key concepts Experts in OHS	1. Sensemaking (Weick) 2. Mindfulness 3. Enactment 4. Cognitive Dissonance 5. Attribution (Geller) 6. Risk Homeostasis 7. Social psychology (Wilde) 8. Group think (Reason) 9. Improvisation 10. Managing the Unexpected 11. Eclectic approaches (Mitroff)	1. Advanced level of Psychology of Safety to individuals and organisations.

Strategy	Focus/Activity	Outcome
Practical Tools and Activators	1. Integration of PoS in to workplace safety tools, OHS checklists, meetings, fora, communications etc. 2. Mapping interventions (Geller) and generating altruism. 3. Psychology of change	1. Develop practical tools to initiate change in safety culture and climate in an organisation.
Rehabilitation	1. Principles of well being 2. Key stakeholders 3. Strategies and returning to work 4. Legislation	1. Understand and manage HR basics
Training	1. Developing training programs 2. Coaching and developing staff 3. Supervised training of others 4. Time Management 5. Conflict Management 6. Health and Well Being	1. Develop practical knowledge and culmination of knowledge, learning, competence and practice.
Diagnostic Tools	1. Culture Leadership Organisations and Management Survey (CLOMS) 2. iProfile Safety Culture Survey 3. K-HOW Health and Well Being Survey	1. Keypad Technology assessment using iRIM methodology.
Case Studies	Case studies to trainin in OHSEC understanding and OHS systems development. eg. Longford, Glenbrook etc	1. Incraesed understanding of the Total Safety Organisation.

Staff and Associates of Human Dymensions Pty Ltd

Dr Robert Long - Director

PhD., MOHS., MEd., BEd., BTh., Dip T., Dip Min., Cert IV TAA, MACE, MSIA, MRMIA.

Rob has extensive experience, qualifications and expertise across a range of sectors including government, education, corporate, industry and community sectors over 30 years. Rob has worked at all levels of the education and training sector including serving on various post graduate executive, post graduate supervision, post graduate course design and implementation programs. He has worked in four universities, a TAFE, Schools and managed a range of RTO to University transition programs.

Rob has established an RTO and whilst a Manager (EL2) in Government was Director of the ACT Community Services ITAB. Rob was the founding Principal of the Galilee School for high needs young people and in Government Chair of numerous National committees on education, training, community services and youth.

Rob has conducted and designed numerous reviews, consultancies, training programs and evaluations for large and small organisations including: an International OHS survey for Brambles International in 2005/06, organisational development projects for BlueScope Steel (2006), CHEP Australia (2005), BMA Coal (2005), IAG (2005), Unilever (2004) and BOC Gases (2004).

In 2003 Rob managed an Emergency Centre during the Canberra Bushfires and in 2006 Rob was requested to be on the Emergency Coordination Operations Group (ECOG) at Beaconsfield Mine following the ANZAC Day Rockfall Crisis (2006).

Rob designed and implemented the Nationally awarded PROACT OHS program for the Master Builders Association in 2005/2006. Rob has design and patented four unique diagnostic tools in the areas of organisational development, OHS, health and well being and leadership and management.

Recent clients accessing these services include: Department of Defence, CSIRO Australian Animal Health Laboratories, Department of Attorney General's, Department of Sustainability, Environment, Water, Population and Communities, Baulderstone, United Group Ltd, Kell and Rigby, Utilacor, Hindmarsh Group, PBS Property Group, ETA Alliance, Built, Waterway Constructions, Huon Development, MBA ACT. Solve Projects,