Facilitating Effective Emergency Decision Making

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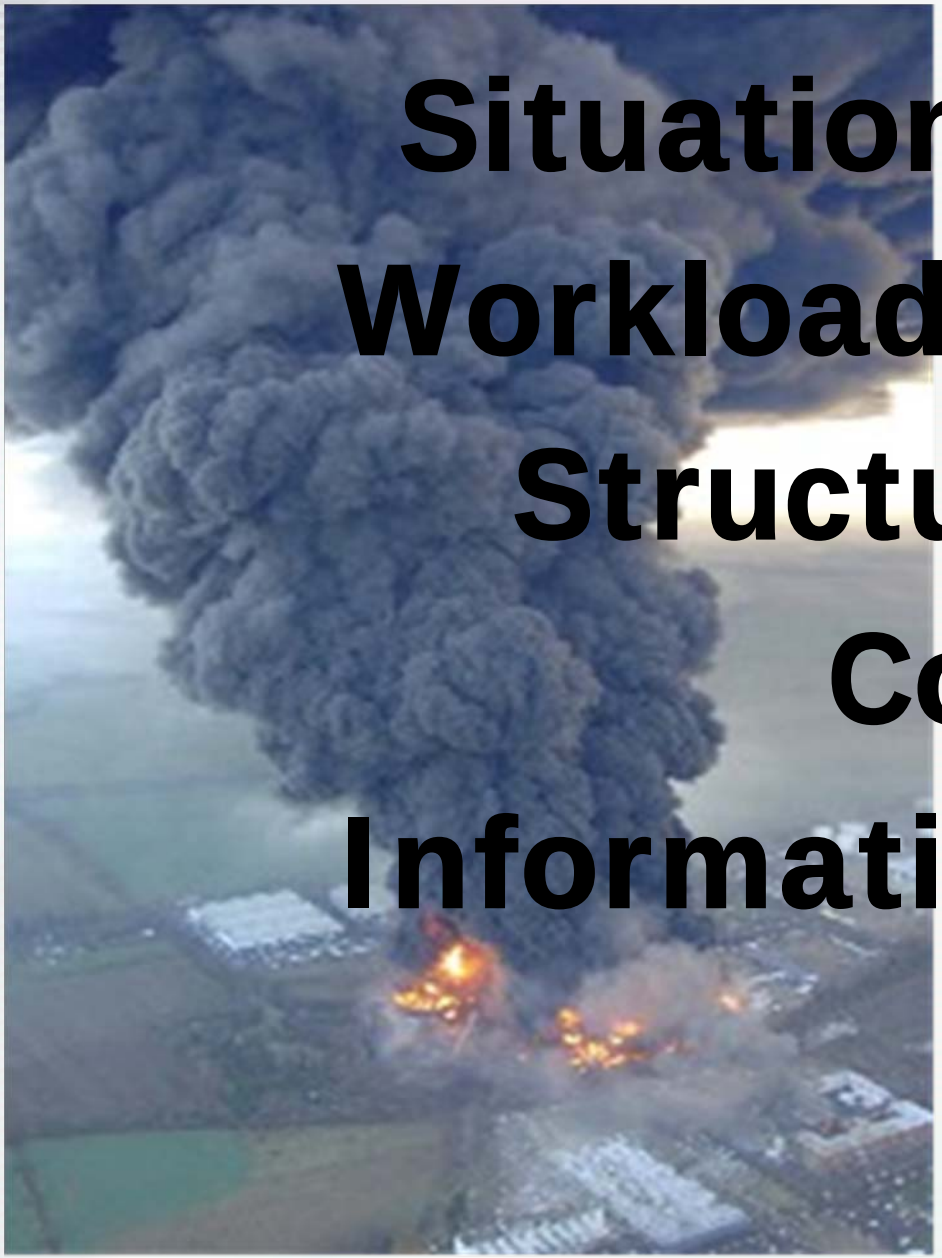


Situational Awareness

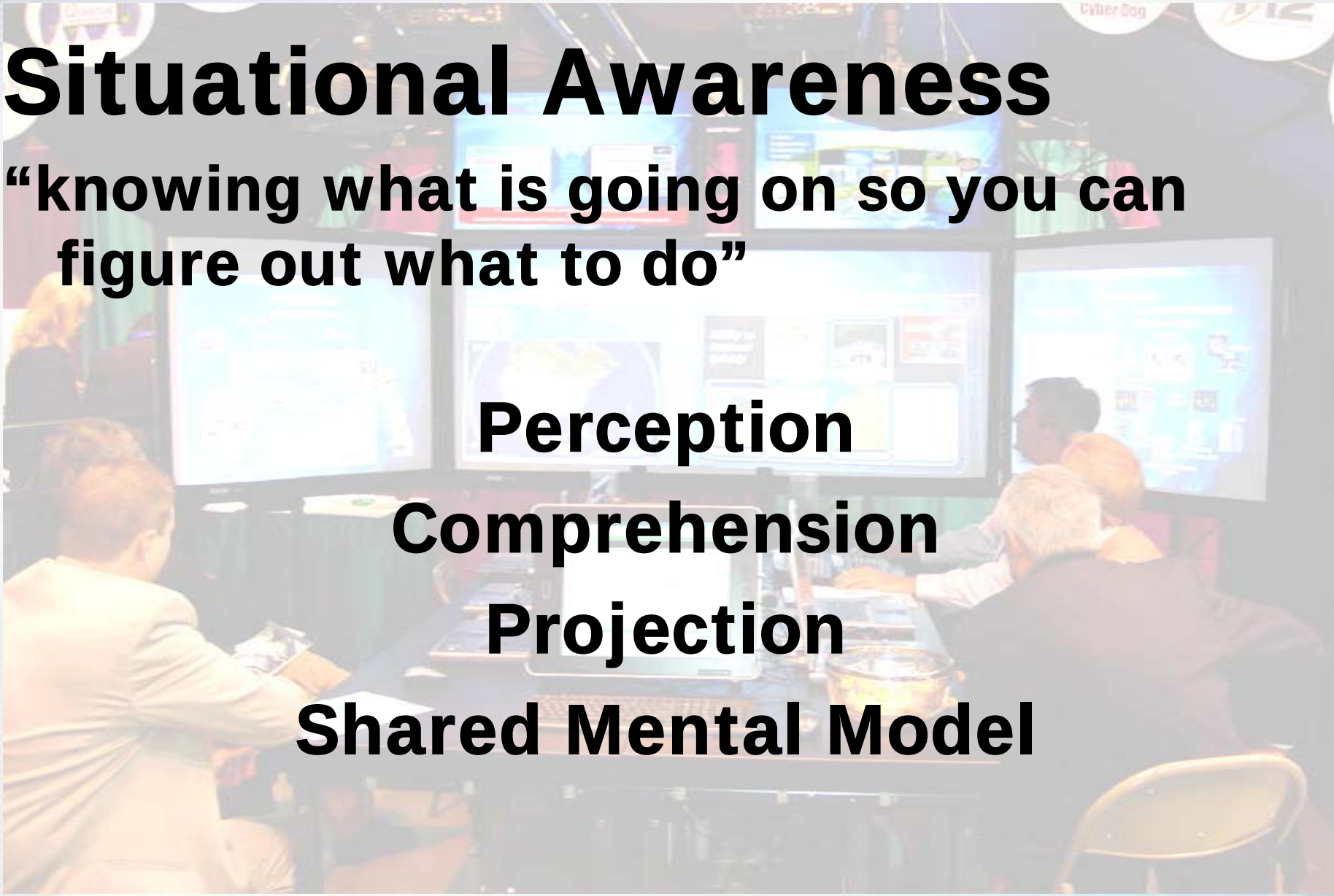
Workload management

Structured approach

Communication

Information processing

Training



Situational Awareness

“knowing what is going on so you can figure out what to do”

Perception

Comprehension

Projection

Shared Mental Model

Situational Awareness

- Objectives become ambiguous or unclear
- Distraction as the focus diverges from the objectives
- Attention becomes focused on one objective to the exclusion of others
- Failure to resolve conflict
- Displaying of a false sense of security
- Structured procedure is lost
- Improper procedures are used
- Departure from regulations
- Failure to meet planned targets
- Failure to identify or act on the need for forward planning

Situational Awareness

- **Ensure those in command positions have been**
  - Exposed to sufficient training, simulation and real events to allow them to form a robust set of mental ‘rules’ for dealing with different situations
  - Encouraged to reflect upon effectiveness of past performances to further develop these rules. Rasmussen (1983) found that there is only a weak association between amount of experience and performance, self reflection appears more critical
  - Trained to match what is in front of them to what they have previously experienced

Situational Awareness

- Adopt training which fosters a Shared Mental Model.
- Detail functional groups with the sole purpose of data collection.
- The IC remains separate from functional groups. Functional groups should present options and critical supporting intelligence. (ICS)
- Ensure those in command positions have been trained to recognise when there is a lack of situational awareness and what steps to take to gain that awareness
- Ensure those in command positions have been trained to recognise the early signs of loss of situational awareness

Workload management

Span of control

Working memory

Fatigue

Personal control

	Planning	Logistic	Operations	Investigation	Intelligence	Public Information	Admin/ Finance
NSW Fire Brigades	X	X	X				
Queensland Police	X	X	X		X		X
FBI	X	X	X				X
LAPD	X	X	X				X
Homeland Security	X	X	X				X
NSW Police	X	X	X	X	X	X	
NZ Police	X	X	X		X		

Workload management

- Keep the span of control to 4-7
- Ensure procedures for individual to follow are not too complex or demanding
- Ensure the system is tested to ensure that the span of control and functional groups are appropriate
- Ensure everyone who may be involved in the system is trained and well practised in the system
- Ensure people with appropriate skills and experience are tasked to functional groups. Select the right people for critical roles.
- Train people to form the habit of writing information down

Workload management

- Train people to issue closed instructions
- Don’t overload subordinates with undue requests for situation reports
- Implement procedures for rotation of staff with rest period in between operational periods
- Ensure rest periods are taken by monitoring staff
- Set up a check point system to log people in and out through one point of access
- Make provision for the appropriate accommodation of staff
- Encourage self development for increased emotional control and disciplined thinking in simulation and real day to day activities

Structured Approach

Pattern matching

Decision making models

Structured Approach

- **Regular training of commanders using realistic simulations**
- **Succession planning taking into account mentoring and exposure to as many real and simulated exercises as possible for potential commanders prior to their being placed in a command situation**
- **Self reflection on what worked and what didn’t during training and real events**
- **Select and use a formalised decision making model**

Communication

Complete

Accurate

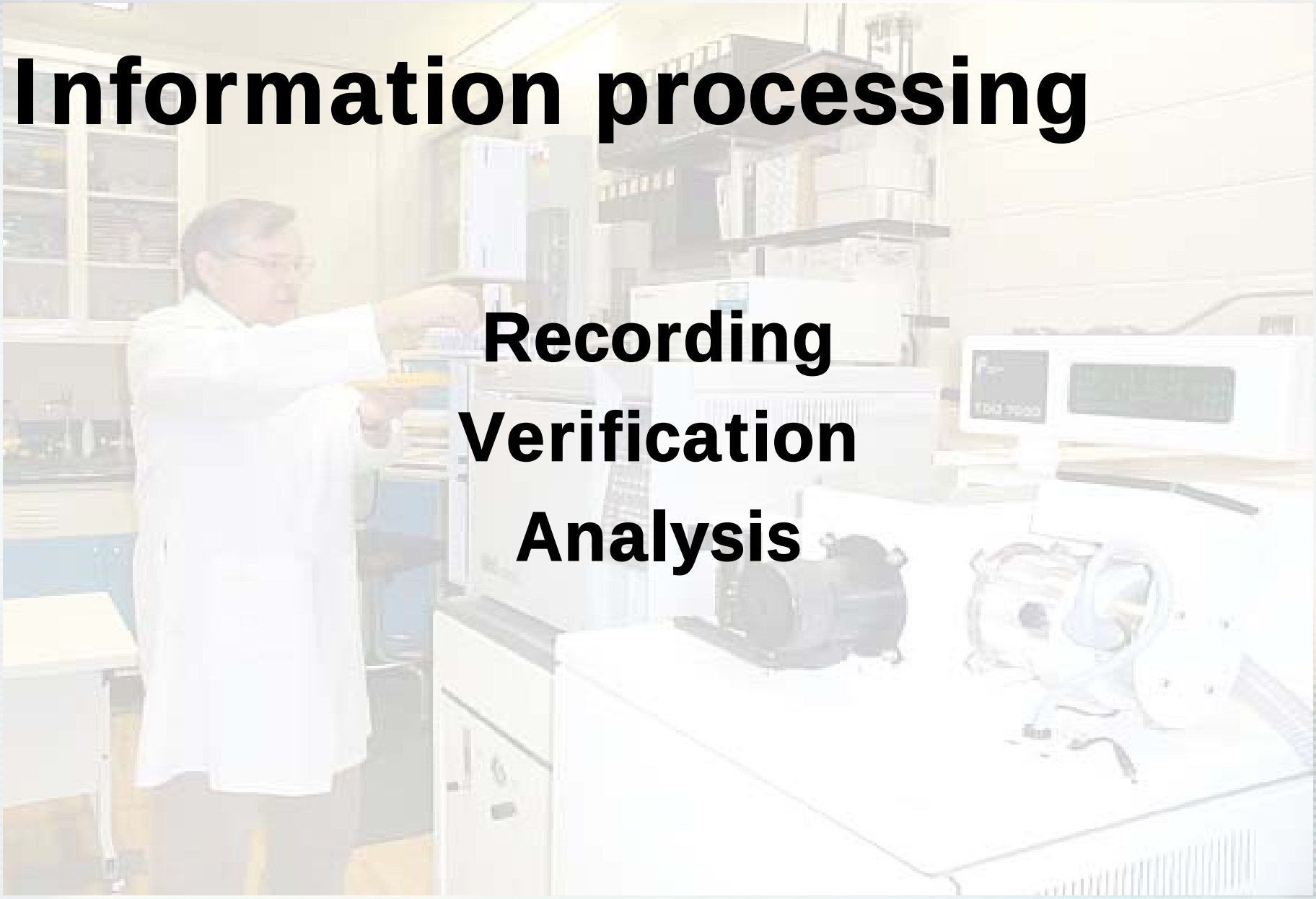
Understood

Timely

Communication

- Place great emphasis on the importance of exact compliance with instructions and clearances
- Use standard, concise and unequivocal language
- Time the message to be sent when the receiver is able to listen, i.e. during the Thredbo incident 1 hour briefing cycles were used
- Ensure statements are direct and unambiguous
- State one idea at a time
- State ideas simple
- Explain when appropriate

Information processing



Recording

Verification

Analysis

Information processing

H2	O2	N2	CH4	CO2	CO	C2H4	C2H6
0.0250	15.20	79.08	2.75	2.90	0.0310	0.0005	0.0125
0.0225	16.00	78.83	2.50	2.61	0.0285	0.0004	0.0115
0.0190	17.25	77.89	2.35	2.45	0.0260	0.0004	0.0110

Raw sample gas trending

H2	N2	CH4	CO2	CO	C2H4	C2H6
0.0912	79.13	10.03	10.58	0.1131	0.0018	0.0456
0.0954	78.07	10.60	11.07	0.1208	0.0017	0.0488
0.1079	72.43	13.34	13.91	0.1476	0.0023	0.0624

Air Free gas trending

Graham's ratio 0.54, 0.58, 0.77

Information processing

- Ensure all information is recorded
- Record the reasoning behind decision making.
- Test different methods and combinations of methods to determine what works best for the organisation
- Take copies of any records which you may be required to produce in an inquiry
- Ensure information is verified before being used as the basis for decisions
- Implement a system of highlighting verified information
- Source expert advisors and maintain a list of current contact details ahead of time
- Test and implement analysis software such as “Smartmate” or similar

Training

Structure of incident management

Inter-agency interaction

Reflect reality

Debriefing & feedback

Training

Training for incident management should include:

- **The organisation and make up of the incident management team. All personnel involved should know the structure of, and their own place within, the command structure.**
- **Information gathering and dissemination methods and procedures**
- **The physical location and layout of the command centre**
- **Inter-agency interaction**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