Sigma Information Systems

Software Systems for Health & Safety and more

ANAGEMENT FORCE Group

Risk Assessment Management

Background

The Occupational Risk Assessment is the most critical process for a Company to organize its H&S management system in an effective way

MANAGEMENT FORCE
- is engaged in risk assessment projects systematically from its foundation until now
- has designed and applied the software "Risk Assessment Management" from the very beginning of its operation, aiming to optimize the quality of a risk study by providing:

  ❖ Adequacy and completeness of data
  ❖ Objective Assessment of risks
  ❖ Ease of management (reading, printing, reviewing) of the risk assessment records

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Risk Assessment challenges addressed

Technical aspect

The Risk Assessment process produces great volumes of information of high complexity requiring further processing for different levels of management.

To be effective, the RA process needs to be properly understood, focused, transparent and clearly communicated.

Without the use of specialized tools, the challenges emerging in RA process tracking are difficult to address.

Early adoption of digital procedures and specialized software tools helps organizations achieve high levels of personnel productivity, information accuracy, hiding of information complexity and standardization.

RA

Challenges include:

- Standardization / homogenization of information
Everybody **must** speak the same language throughout the organization (standardized hazards, hazard factors, measures, tasks, job positions, legislation, categorization, assessment methodology)

- Monitoring and alerting for tasks and measure assignments
Responsible personnel **should** easily receive proper information regarding the status of tasks

- Proper flexible reporting to management
Different levels of management need different aspects of information (different aggregations, categorization, sorting of information, etc.)

Challenges include:

- Proper and safe sharing of data
  Employees **must** have different capabilities in modifying or only using the information

- Concurrent data access by multiple users

- Possible need for information distribution in different languages
  Organizations activated in multiple countries or having different levels of management speaking different languages **should** have no limit in accurately sharing the same information

Risk assessment information is filled in well prepared paper forms

Forms are :
- gathered, counted, categorized
- distributed to all those who have to know (management, contractors, actionees, …)
- Filed for future use

Further processing / summarizing: too much work!
Overall monitoring capabilities: very limited
Dealing with big volumes of data: almost impossible!

RA

Substitute paper and manual actions mainly with spreadsheets

Main advantages
- Familiarity with the tools / Usability
- Freedom in creating and configuring data
- Further processing / summarizing: much easier

Main disadvantages
- Too much freedom in creating and configuring data
- Difficult data homogenization
- Difficult to reference related documentation
- Difficult to configure user data access privileges
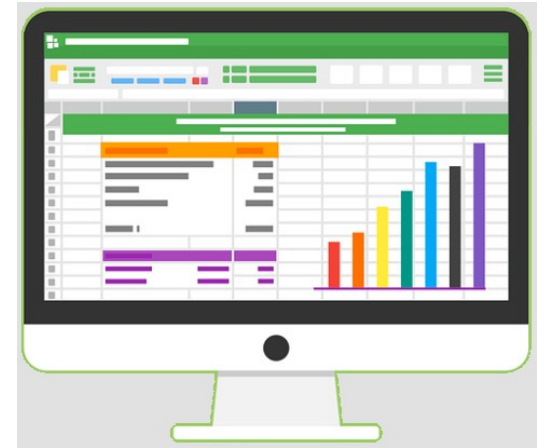
Use of specialized software

RAM software

RISK ASSESSMENT MANAGEMENT is now on its 3rd edition and has incorporated the experience of **MANAGEMENT FORCE** risk assessment projects.

- Great solution for an adequate and appropriate workplace risk assessment
- Workplace and activities data recording
- Risk assessment worksheet (hazard, hazardous factor, control measure, people exposed, risk evaluation)
- Risk evaluation of each job position or any other exposed to risk
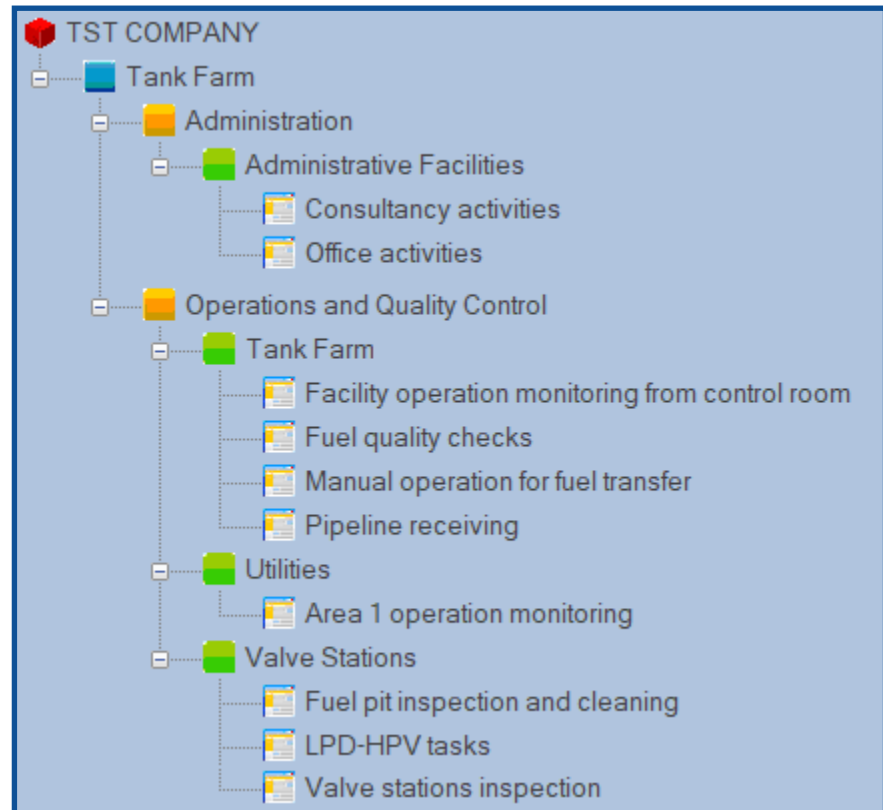- Pending actions monitoring
- Revisions back up

RAM software

- Multilanguage

- Network access

- Built in hazards and controls database

- Easy data monitoring, grouping, sorting and exporting

- Selection of methodology (2 or 3 parameters)

- Interface customized by the user

- Reports customized by the user

- Multi user access

- User action log

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RAM software

- Three-level structure:

  - ❑ *System*

  - ❑ *Subsystem*

  - ❑ *Section*

- Risk Assessment per Task

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Pre-configured Hazards, Factors and Measures database

Hazards

English	Greek	Albanian
Fall from height	Εργασία σε ύψη και σημεία αναρρίχησης	
Uneven or slippery flat surfaces	Ανώμαλη ή ολισθηρή επιφάνεια	
Loads/materials fall from height	Αιωρούμενα φορτία/υλικά	
Moving vehicles and powered industrial trucks	Κινούμενα οχήματα και μηχανές	
High pressure	Υψηλές πιέσεις	
Manual handling	Ανύψωση ή μεταφορά φορτίου χειρωνακτικά	
Hot or cold surfaces - materials	Ζεστές ή κρύες επιφάνειες, υλικά, κτλ.	
Dangerous objects and surfaces (sharp, rough, etc.)	Αιχμηρές/επικίνδυνες επιφάνειες και αντικείμενα	

Hazardous Factors

English	Greek	Albanian
Working with ladders	Εργασία με φορητή σκάλα	
Working at ceilings	Εργασία σε οροφή	
Working near well/excavation	Εργασία κοντά σε εκσκαφή/φρεάτιο	
Working at platforms	Εργασία σε αποβάθρα	
Working at scaffolds	Εργασία σε σκαλωσιά	
Working with lifting platforms	Εργασία με μηχανικές ανυψωτικές διατάξεις/εξέδρες	

Risk Control Measures

English	Legislation	Greek	Legislation	Albanian	Legislation	Category
Employee health monitoring		Ιατρική παρακολούθηση εργαζομένων				Administrative
Safety instructions for working with scaffolding		Οδηγίες Ασφαλούς Εργασίας για εργασίες ...				
Safety instructions for working with mobile ladders		Οδηγίες Ασφαλούς Εργασίας για εργασίες ...				
Employee training		Εκπαίδευση εργαζομένων				Administrative
Mobile ladder according to safety standards		Φορητή σκάλα σύμφωνα με προδιαγραφές				Technical
Scaffolding according to safety standards		Σκαλωσιά σύμφωνα με προδιαγραφές				
Certification of scaffolding		Πιστοποίηση σκαλωσιάς				

RAM software

- Two parameters:
  - Severity (S)
  - Likelihood (L)
- Risk Level combination of S and L

Severity

	Severity	Assessment	Description
▶	1	Minor	Insignificant outcome, may be required first aid treatment on site, con...
	2	Small	Injuries that may require medical treatment. Absence from work no m...
	3	Critical	Injuries that require medical treatment and/or hospitalization. Absen...
	4	Severe	Serious injuries that require medical treatment and hospitalization. A...
	5	Catastrophic	Death or 1st degree incapability.
*			

Likelihood

	Likelihood	Assessment	Description
▶	1	Very Unlikely	The likelihood t...
	2	Unlikely	The likelihood t...
	3	Likely	The likelihood t...
	4	Very Likely	The likelihood t...
	5	Certain	The likelihood t...
*			

Risk Rating

	Risk Level	Color	Description
▶	1 - Trivial	00FF00	Acceptable risk, no additional measures are required.
	2 - Low	FF6633	Acceptable risk with control measures in place.
	3 - Medium	00FFFF	Acceptable risk, with the provision that control measures will be implemented in long term (no more than 1 y...
	4 - High	0099FF	Unacceptable risk, control measures to be implemented in short term (no more than 3 months).
	5 - Very High	0000FF	Unacceptable risk, stop working until control measures to be implemented.
*			

Calculat...

	S		
▶	1		
	1		
	2		
	1	3	2 - Low
	3	1	2 - Low
	1	4	2 - Low
	2	2	2 - Low
	4	1	2 - Low
	1	5	2 - Low
	5	1	2 - Low
	2	3	3 - Medium

Risk Matrix

		Severity				
		1	2	3	4	5
Likelihood	1	1 - Trivial	1 - Trivial	2 - Low	2 - Low	2 - Low
	2	1 - Trivial	2 - Low	3 - Medium	3 - Medium	4 - High
	3	2 - Low	3 - Medium	3 - Medium	4 - High	5 - Very High
	4	2 - Low	3 - Medium	4 - High	5 - Very High	5 - Very High
	5	2 - Low	4 - High	5 - Very High	5 - Very High	5 - Very High

RAM software

- Three parameters:
  - Severity (S)
  - Likelihood (L)
  - Frequency of Exposure (E)
- Risk Level calculated by product: S x L x E

Severity

	Severity	Assessment	Description
▶	1		No impact in health
	2		First Aid Injury, Medical Trea
	3		LTI, with absence ≤3 working
	4		LTI, with absence between 3
	5		LTI, with absence ≥3 working
	6		LTI, with absence ≥3 working
	7		LTI, resulted to light disability
	8		LTI, resulted to permanent d
	9		LTI, resulted to permanent to
	10		Fatal injury

Likelihood

	Likelihood	Assessment	Description
▶	1		Almost impossible
	2	(~1%-10%)	High Unlikely
	3	(~10%-25%)	Almost Unlikely
	4	(~24%-40%)	Lowly Possible
	5	(~40%-50%)	Possible < 50%
	6	(~50%-60%)	Very Possible = 50%
	7	(~60%-70%)	Highly Possible > 60%
	8	(~70%-80%)	Likely
	9	(~80%-90%)	Highly Likely
	10		Almost certain

Exposure

	Exposure	Assessment	Description
▶	1		The employee is exposed once
	2		The employee is exposed once
	3		The employee is exposed once
	4		The employee is exposed once
	5		The employee is exposed once
	6		The employee is exposed once
	7		The employee is exposed once
	8		The employee is exposed once
	9		The employee is exposed once
	10		The employee is exposed conti

Risk Rating

	From	To	Risk Level	Color	Description
▶	0	199	Trivial	00FF00	Maintain necessary controls to ensure acceptable risk level
	200	399	Low	FF6633	Implementation of controls to reduce the risk in a timeframe of two (2) years
	400	599	Medium	00FFFF	Implementation of controls to reduce the risk in a timeframe of one (1) year
	600	799	High	0099FF	Implementation of controls to reduce the risk in a timeframe of six (6) months
	800	1000	Very High	0000FF	Immediate stop of the activity & implementation immediately of the necessary controls to prevent incidents and minimize the risk
▶					

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RA

RAM software

Hazard Measures and related information

- User selection of visible columns

- Measures Related Information:
  - Implemented
  - Due Date
  - Measure Category
  - Responsible person

  - Legislation
  - Linked File
  - Comments

Hazard		Hazardous Factors	Risk Control Measures							
			Measure	**Implemented**	**Due Date**	**Category**	**Responsible**	**Legislation**	**Linked File**	**Comments**
Airborne chemical substances	▶	Fuel vapors	Employee training	☐		Administrative	Resp. Perso...	Leg. 156/17		Comment 1
	∗		Employee health monitoring	☐	13/8/2020	Administrative				Comment 2
			Closed system well maintained	☑		Technical	Resp. Perso...	Leg. 555/18		
			Equipment checking progra...	☑					Equip-Check.xls	
				☐						
Dangerous objects and surfaces (sharp, rough, etc.)	▶	Outstanding parts of structures/...	Marking of hazardous parts ...	☑						
		Sharp equipment	Safeguards	☐						Comment 4
		Uncovered corners	Use of appropriate safety gl...	☑						Comment 5
	∗			☐						
Extreme weather conditions	▶	Extreme cold	Employee training	☑			Resp. Perso...			
		Strong winds	Use of appropriate water pr...	☑			Resp. Perso...			
		Working at height	Use of water proof safety bo...	☐						
	∗		Stop working policy	☑						
			Use of appropriate jacket	☑						
				☐						

RAM software

Risk Assessment per position

For each position, specification of:

- Initial risk level

- Final (objective) risk level

based on the selected methodology (2 or 3 parameters)

Position	Initial			Final		
	S	L	Risk	S	L	Risk
Control Room Operators	2	2	2 - Low	2	1	1 - Trivial
Quality and Safety Inspectors	3	2	3 - Medium	2	2	2 - Low
Electricians	4	3	4 - High	2	2	2 - Low
▶*						

RA

RAM software

Reporting

- Selection of Full report or RA table only
- Reports include hazards, hazard measures, proposed measures and assessments
- User selection of visible information

TST COMPANY
OCCUPATIONAL RISK ASSESSMENT

Rev. No.	: 0	**Rev. Date**	: 20/3/2020 12:00:00 πμ	**Next Rev. Date**	:	
System	: Tank Farm	**SubSystem**	: Operations and Quality Control	**Section**	: Valve Stations	
Prepared By	: Safety Practitioner	**Approved By**	: H&S Manager	**Section Responsibility**	: Operations Supervisor	
Task	: Valve stations inspection					
No of Employees	: 5	**Shift**	: Morning and evening	**Task General Risk**	: 3 - Medium	

Hazard	Implemented Measures	Position	Sev.	Lik.	Risk	Proposed Measures	Resp.	Due Date	Sev.	Lik.	Res. Risk
Airborne chemical substances Hazardous Factor Fuel vapors	Equipment checking program in place Workplace technical ventilation Administrative Employee training (Leg: Leg. 156/17)	Quality and Safety Inspectors	3	1	3	Administrative Employee health monitoring Technical Closed system well maintained (Leg: Leg. 555/18)			2	1	2
Dangerous objects and surfaces (sharp, rough, etc.) Hazardous Factor Outstanding parts of structures/equipment Uncovered corners	Safeguards Use of appropriate safety gloves	Quality and Safety Inspectors	3	2	6	Marking of hazardous parts of equipment			2	2	4

RA

RAM software

RA Monitoring

- Monitor all aspects of Risk Assessment information
- User selected criteria, grouping and visible columns
- Reports export in Word, Excel or PDF format

RAM software

- RAM is preconfigured for use in four languages: English, Greek, Albanian and Romanian

- Users are free to configure any number of languages in the application and translate all labels and messages to the new languages

- All risk assessment information entered in one language can be easily translated by the user to any other language and produce the same reports in different languages
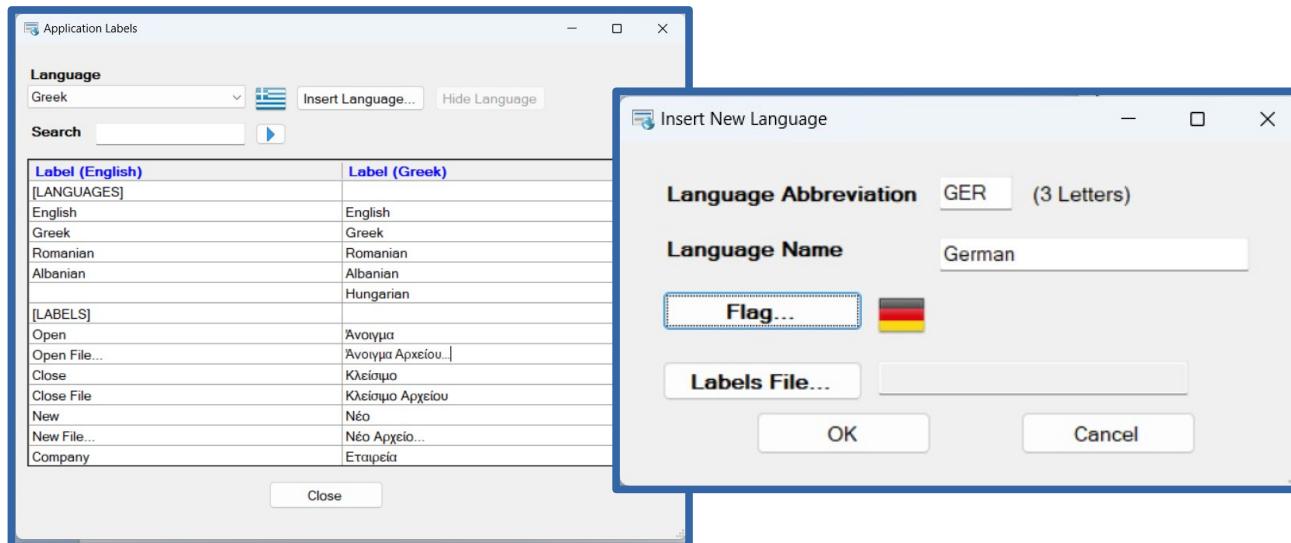
RAM software

- Multiple users can be configured to access a database

- Each user can be either a Simple user or an Administrator

- All users can view and print any RA in the database

- Simple users can only perform modifications in the parts of the organization structure in which they have access.

Name	User Name	Password	Administrator	Active
Administrator	Admin	**********	☑	☑
User 1	user1	**********	☐	☐
			☐	☑

User user1's Priviledges

- ☐ TST COMPANY
  - ☐ Tank Farm
    - ☑ Operations and Quality Control
      - ☑ Tank Farm
      - ☑ Valve Stations
      - ☑ Utilities
    - ☐ Maintenance Section

RAM software

- Revisions backup

  Every revision of a Risk Assessment is retained in the database and can be accessed through the RA history

- Overdue actions notification

  Users are notified for revisions and measures that should have been processed

- Risk Assessment duplication

  RAs can be copied from one section to another

- Organization structure duplication

  Any branch of the hierarchical structure can be copied to another branch in the same file

- Customization of application labels and messages

  All labels and messages in any language can be easily modified by the user

Please visit

https://mforsafety.com/tools.html

for a fully functional trial version of RAM software

Thank you for your interest!