

Model for Implementation of Work Safety Management Systems: A Real Study Based on OHSAS and Checkland with Application in Brazil and Portugal

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BOA VIAGEM

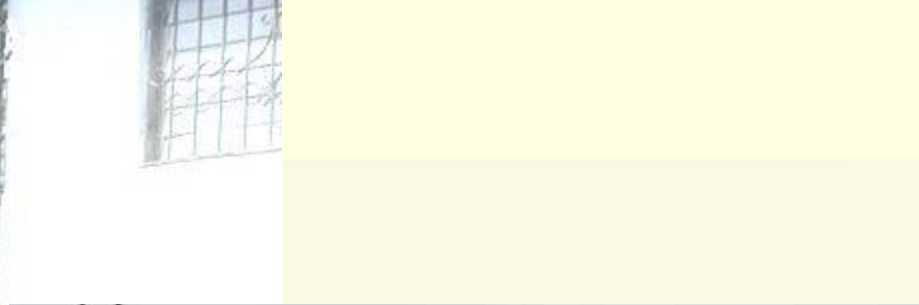
Uma estratégia de vida









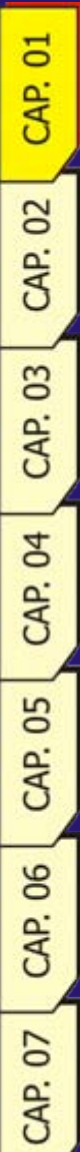


Introduction

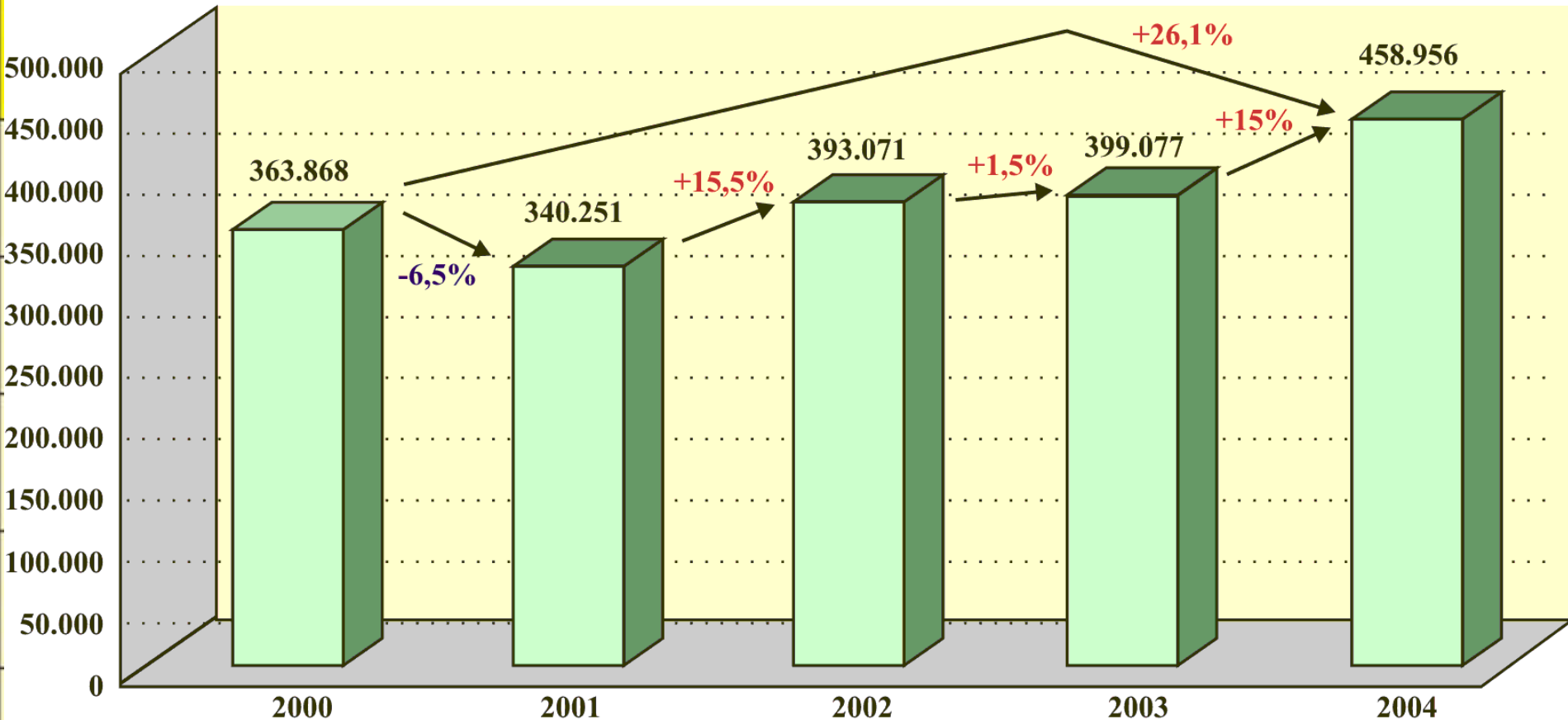
“When a critical analysis on the theme "work" is done, often many times we see a contradiction , which is based at the same time that the work builds the man, it can also destroy him.”

(SANTOS, 2003).

- ❖ The Work as a source of insecurity;
- ❖ Innovation X Understanding;
- ❖ Conception X Learning;
- ❖ Focus of the Study : WSHMS --- WSMS.



Introduction



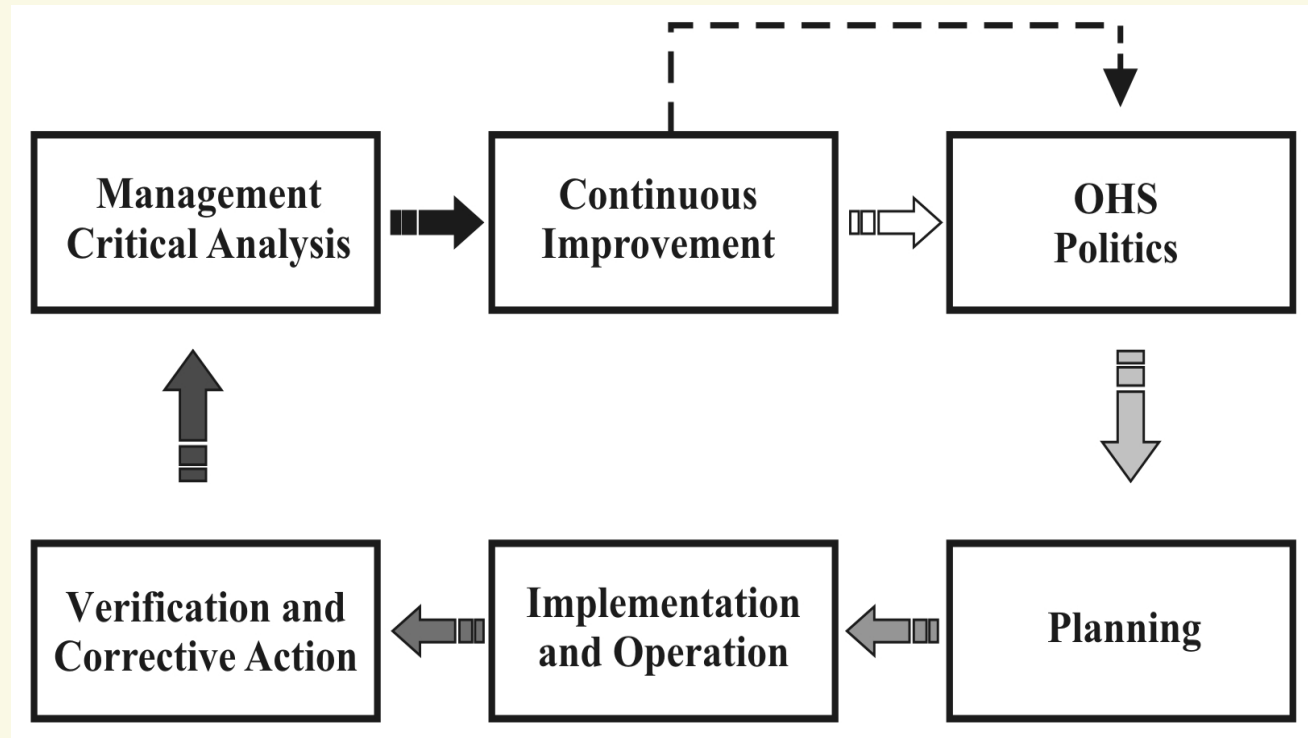
Total quantity of industrial accidents recorded- 2000 a 2004

Source: Adapted from Arruda (2004) e AEPS (2005)



Assessment Services in Occupational Health and Safety. **Elements of a WSHMS (OHSAS)**

OHSAS 18001



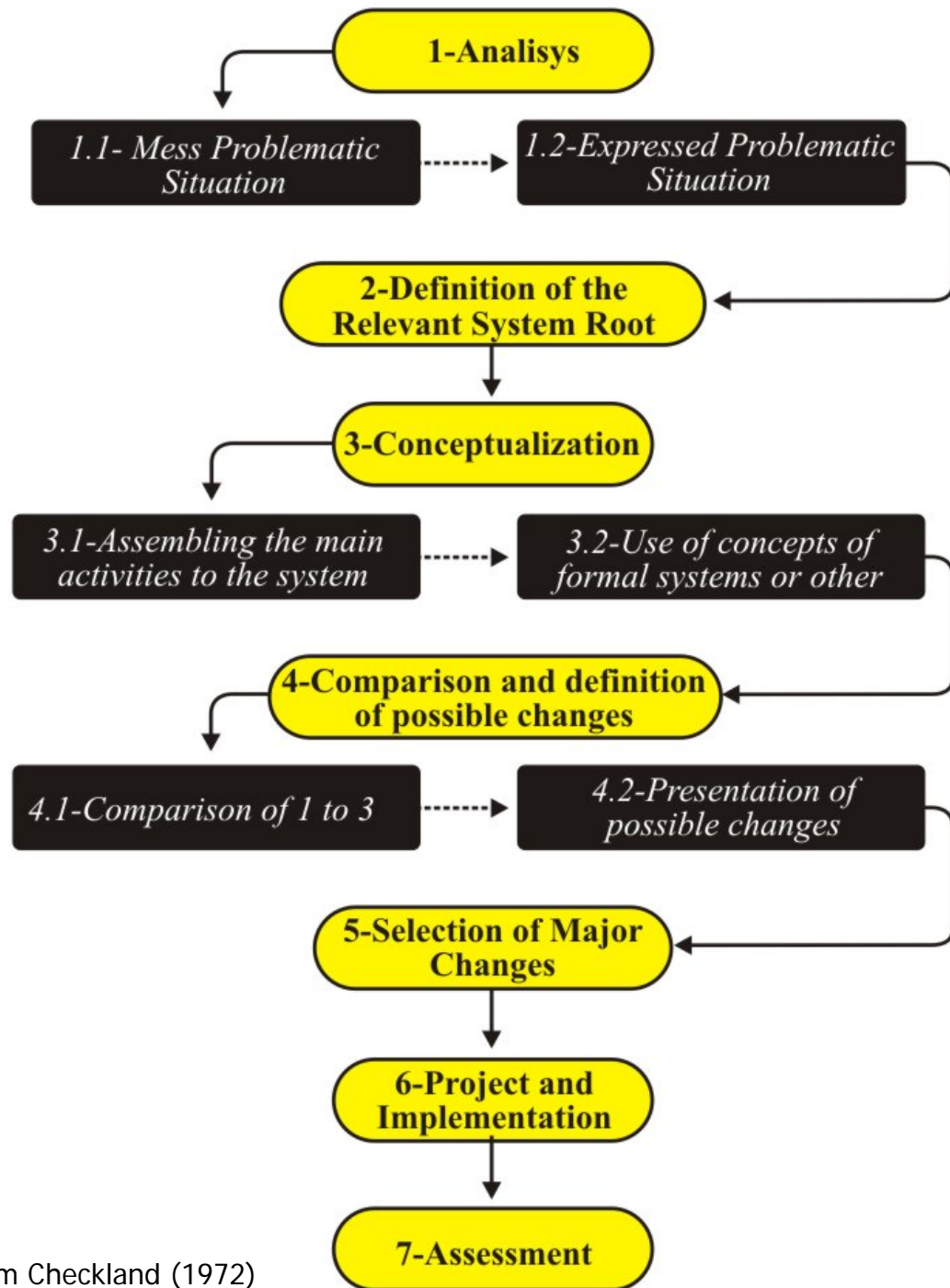
Source: Adapted from OHSAS 18001 (1999)



Bibliographic Review

- CAP. 01
- CAP. 02
- CAP. 03
- CAP. 04
- CAP. 05
- CAP. 06
- CAP. 07

Checkland Methodology



Source: Adapted from Checkland (1972)



Model for Implementation Of WSMS

- ❖ The PROTEGER: agent of differentiation and aid.
- ❖ Based on singular methods of analysis and evaluation.
- ❖ Correspondence between methodology proposed by Checkland (1972) and the elements of WSM according to OHSAS 18001.
- ❖ Use of indicators for formulation and analysis through PROTEGER.

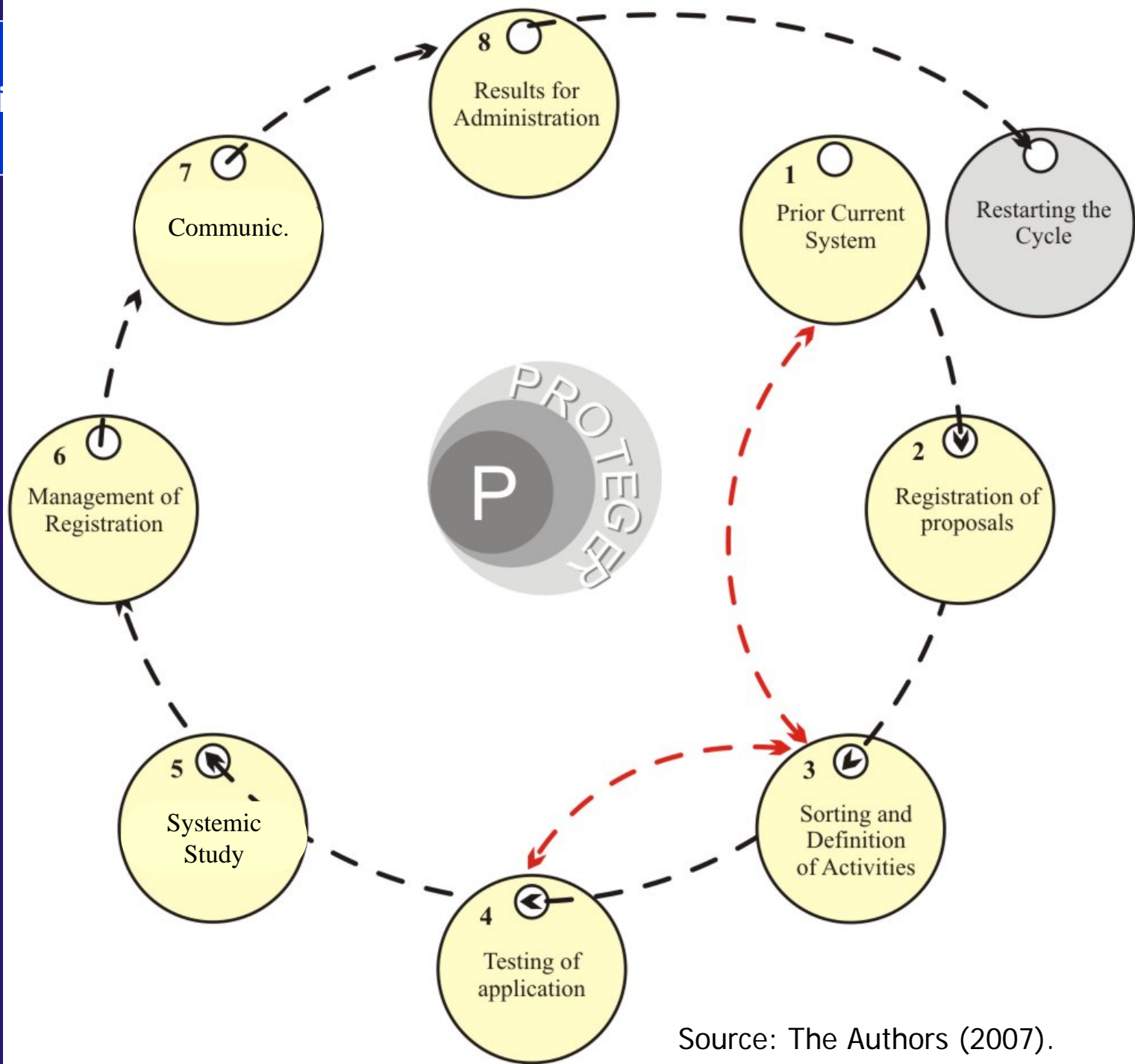
PROTEGER
Development



Model for Implementation Of WSMS

- CAP. 01
- CAP. 02
- CAP. 03
- CAP. 04
- CAP. 05
- CAP. 06
- CAP. 07

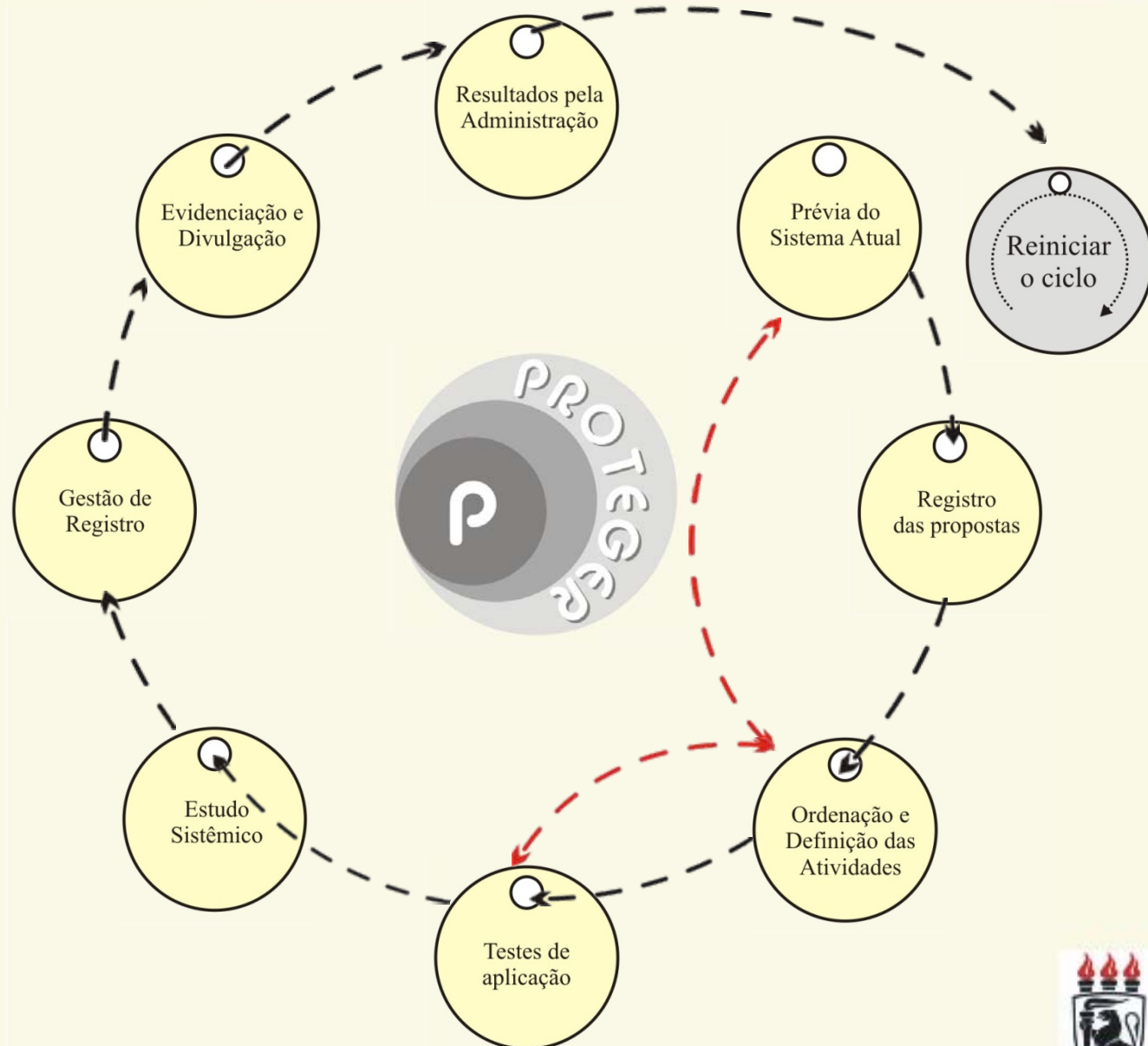
PROTEGER Presentation



Model for Implementation Of WSMS

- CAP. 01
- CAP. 02
- CAP. 03
- CAP. 04
- CAP. 05**
- CAP. 06
- CAP. 07

PROTEGER Presentation



Source: The Authors (2007).








Use of 5 groups: Ratings separated by area of concentration (A, B, C, D, E):

- Ⓐ Assessment of Safety and Health policy for Labour.
- Ⓑ Assessment of planning and legal requirements.
- Ⓒ Evaluation of operational and control.
- Ⓓ Assessment of risk management accidents and corrective actions.
- Ⓔ Evaluation of participation in the administration of continuous assessment.

PROTEGER
Presentation

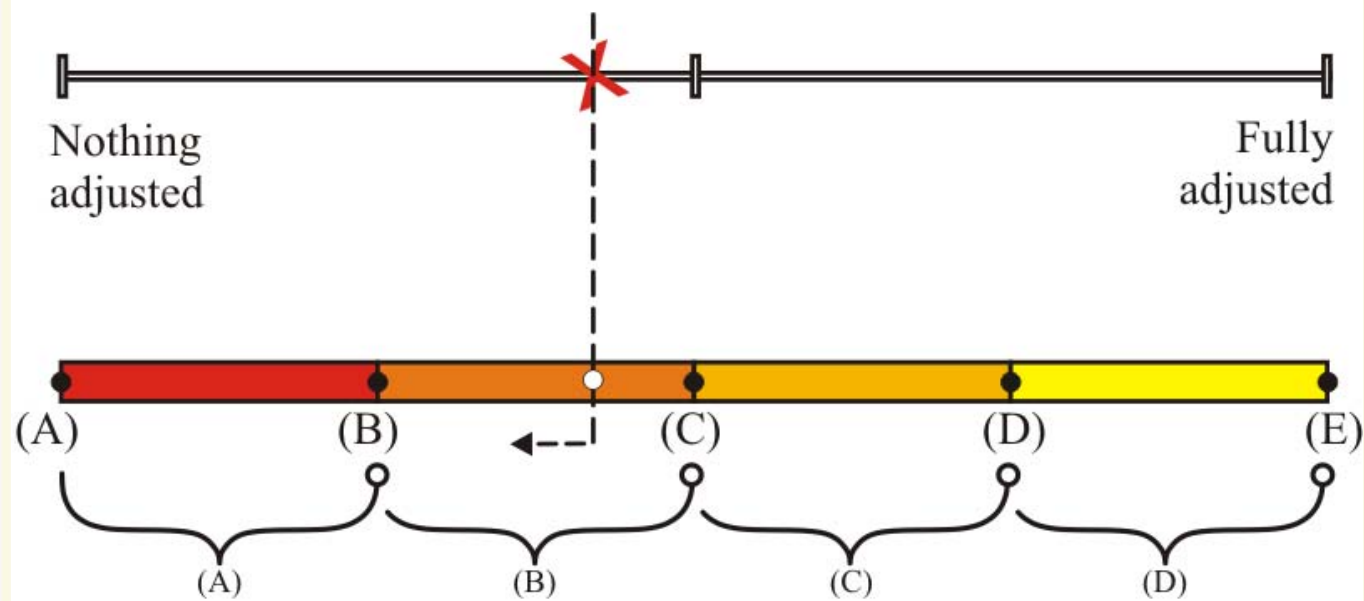


Group A – About the Work Health and Security (WHS) Politics
Mark with only one "X" each one of evaluations about the following items.

n°	Item	Evaluation
01	Existence of orienting lines of direction and politics of WHS as well as all its elements.	(a) Yes (b) No (go to the item 06)
02	Degree of adequacy of the politics of WHS with the company's necessities.	
03	Repassed fully to all the measurable annual objectives for the WHS politics.	
04	How much time revises the effectiveness and the functioning of the system of management in SST.	(a) Month (b) Trimester (c) Semester (d) Year (e) None
05	All the WHS procedures are correctly registered, implemented and kept.	(a) Yes (b) No
06	About the participation in the questions concerned to work safety (for influence level).	(a) Only one level (b) Two levels (e) In the tree levels
07	Existence of safety committee(s) formed by members of the high administration and by employees.	(a) Yes (b) No
08	Regard to the access of employees to reports and findings about their activities and processes.	
09	Communication for high administration on modifications in safety lines or WHS.	
10	Information to all employees about the individual obligations related to security.	

Reached Level	Level 01	Level 02	Level 03	Level 04	Level 05
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Evaluation system in Likert scale



PROTEGER
Presentation
(scale of evaluation
for the answers)



Model for Implementation Of WSMS

CAP. 01

CAP. 02

CAP. 03

CAP. 04

CAP. 05

CAP. 06

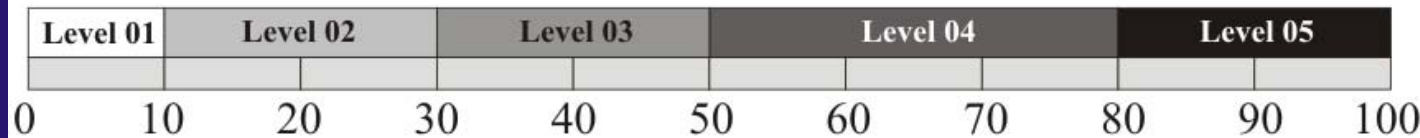
CAP. 07

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(weights)

Group A – Ascertainment and balance		
Score	Imp.	Tot.
a.00 b.100	0,40	
a.100 b.75 c.50 d.25 e.00	0,10	
a.100 b.75 c.50 d.25 e.00	0,05	
a.05 b.25 c.50 d.75 e.100	0,05	
a.00 b.100	0,05	
a.100 b.50 c.00	0,05	
a.00 b.100	0,10	
a.100 b.50 c.00	0,10	
a.100 b.75 c.50 d.25 e.00	0,05	
a.100 b.75 c.50 d.25 e.00	0,05	
Total	100%	



Scale of level condition of PROTEGER model



- Level 01 – Acceptable condition and without weigh of exigency, but, it can be done a revision on its items in a far period;
- Level 02 – Prevent condition and with few exigency, but, changes can be checked and implemented in a medium period;
- Level 03 – Attention condition and with moderate exigency, it must be implemented some changing in a medium period
- Level 04 – Vigilance condition and high exigency, it must be implemented some changing in a short period;
- Level 05 – Emergency condition and with extreme exigency, it must be implemented changing immediately.

PROTEGER
Presentation
(Level of condition)



Danger Sheet Assessment of PROTEGER

Setores envolvidos:

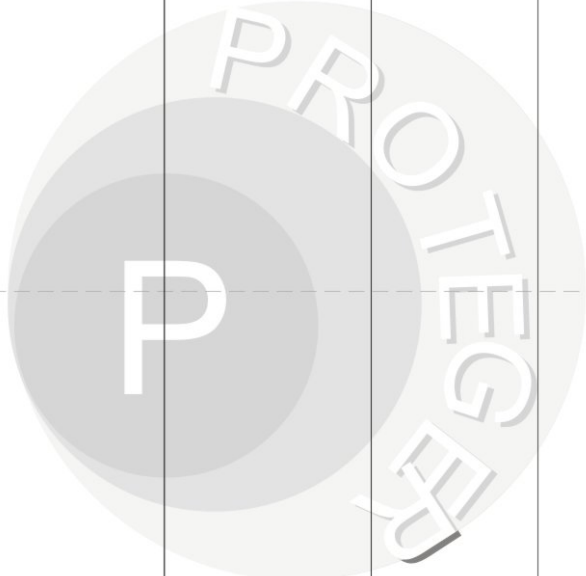
Sistema Analisado:

Responsável:

Sub-sistemas envolvidos:

Data de verificação: / /

Perception of Danger	Possible sources	Mode of perception	Operational dysfunction	Human dysfunction	Type of Occurrence	Degree of Severity	Balancing the Risk	Observations and Recommendations for Improvement



1. Ambiência térmica inadequada; 2. Cansaço físico; 3. Cansaço mental; 4. Sobrecarga de trabalho; 5. Contusão; 6. Trabalho monótono; 7. Elementos que possam causar dano aos olhos; 8. Equipamento e ferramentas; 9. Trabalho repetitivo; 10. Falta de guarda corpo em escadas e rampas; 11. Falta de manutenção; 12. Fonte de energia; 13. Iluminação insuficiente; 14. Incêndio e explosão; 15. Instalações físicas; 16. Sinalização de piso inadequada; 17. Trabalho por turnos; 18. Perigos biológicos; 19. Perigos ergonômicos; 20. Perigos físicos; 21. Veículos internos e externos; 22. Perigos químicos; 23. Queda de alturas (ferramentas e materiais) com dano a pessoas; 24. Queda de alturas (ferramentas e materiais) sem dano a pessoas; 25. Queda de alturas (pessoas); 26. Sinalização aérea inadequada; 27. Levantamento / movimentação manual de ferramentas e materiais; 28. Chãos com superfície escorregadia; 29. Elementos aerodispersóides (que podem ser inalados ou absorvidos); 30. Obstáculos / barreiras dentro de trajetos no local de trabalho ; 31. Escorregões / quedas ao mesmo nível (pessoas); 32. Perigos provenientes de fatores humanos (erros, tensão, etc); 33. Violência com os funcionários. Obs.: a lista não se limita apenas a estes perigos, servindo unicamente como embasamento para o início das atividades.

Risk matrix for model PROTEGER.

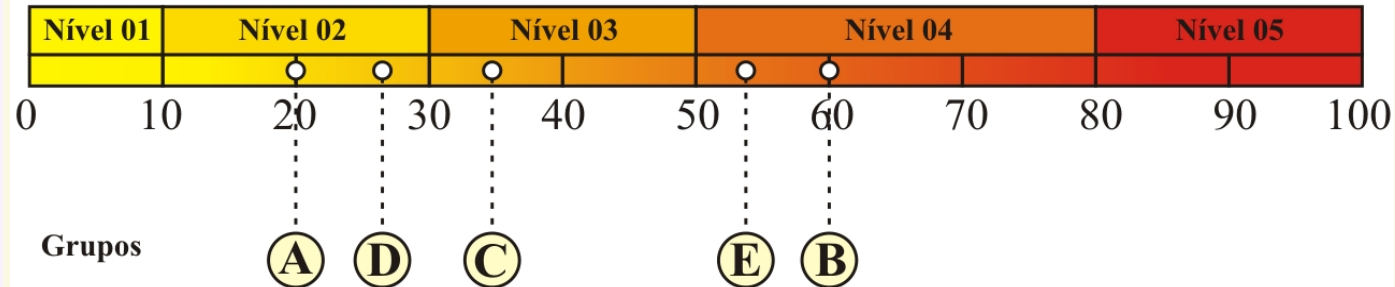
Occurrence Severity	01- Remote	02 - Occasional	03 - Low	04 - Regular	05 - High
1° Derisory					
2° Acceptable					
3° Moderate					
4° Urgent					
5° Critic					

- Risk 1 - Acceptable condition without many risks, however, can a review of the dangers in a long term be implemented;
- Risk 2 - Condition of attention with moderate risk and should be introduced some changes in medium term;
- Risk 3 - Condition of surveillance with high risks and should be introduced some changes in short term;
- Risk 4 - With extreme emergency condition requirement and should be amended immediately.

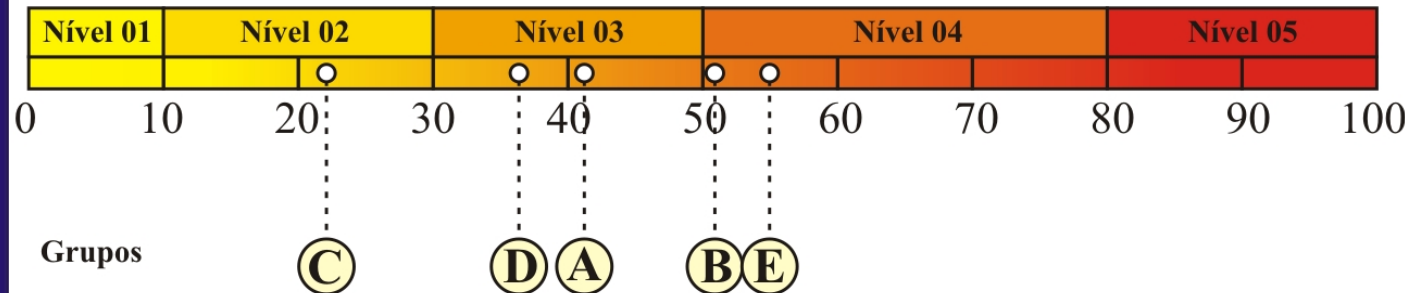


Application of PROTEGER

Company A.



Company B.



Application in-loco

Factor diagnosis of PROTEGER



Conclusions

- Results of the application;
- Sheet for Computer and PDA – Via Excel Software;
- Prepare for an OHSAS – But don` t sugest it;
- Companies involved;
- The Weights were formed by experts and PhD`s envolved on study;
- The singular methods.



“Consider the skills and human limitations is not just a matter of justice, but is a question of respect to the next”
(CORREIA, 2002).

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For more information:

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*Thank you.

