

# Participatory strategy for the management of occupational risks

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## Summary

- Observations
- The basic principles
- The SOBANE strategy
- The role of Occupational health practitioners OHP



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## Classical approach to analyse the working conditions

1. Recognition of a problem
2. Measurements by a specialist
3. Comparison to the limits
4. Decision or not to improve
5. Control measures designed by the specialist
6. Decision by the employer
7. Action or not



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## Specific evaluation

**sufficient for critical situations with  
concentrations, noise levels...  
greater than the limits**

**No or limited participation of the  
workers who are at best « consulted »**

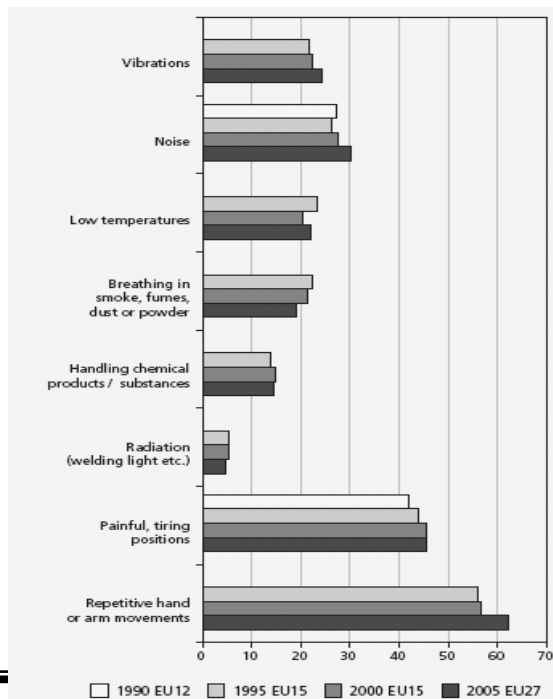


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# Success?

Statistics of the number of workers exposed to physical risks



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## Now

- More MSDs
  - More problems of stress
  - More problems of dissatisfaction
- Multifactorial problems
  - No specific methods of analysis
  - Require a more general approach covering all aspects of the working conditions
  - → Change the approach, change the strategy

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## Fundamental principles

1. Prevention is the objective, not assessment
2. The available qualifications (workers, OHP, experts...) are complementary
3. The worker is the main actor of prevention
4. Training vs assistance
5. All the problems are linked: systemic approach
6. Legalistic vs Preventive approach
7. Management vs. Evaluation (quantification)
8. The SMEs

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## Principle 1: European framework Directive 89/391

### The employer must:

- Guarantee the safety and the health of the workers in all the aspects linked to the working situation.
- Implement all the general principles of prevention:
  - Avoid the risks
  - Evaluate the risks that cannot be avoided
  - Combat the risks at the source
  - Adapt the work to the individual...
  - ...

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## Principle 1: European framework Directive 89/391

### The employer must:

- ...
- Develop a coherent overall prevention policy which covers:
  - technology,
  - organization of work,
  - working conditions,
  - social relationships,
  - and the influence of factors related to the working environment;

### 1. Emphasis

- Not on protection et medical surveillance
- **But on risk prevention**

### 2. Systemic approach

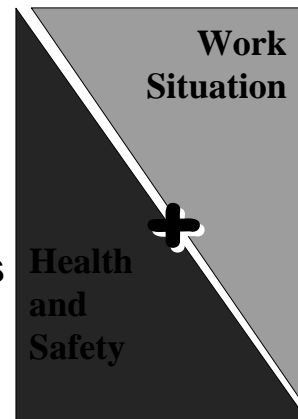
- Integrate the prevention - wellbeing policy in the general policy of the company

### 3. Positive approach

- **Wellbeing: positive image = efficiency**
- Accidents, diseases, risks: negative image = cost

## Principle 2: the available qualifications are complementary

- Workers
- Local management
- OH practitioners
- Occ. physicians
- Industrial Hygienists
- Ergonomists
- Experts



➔ Organize the complementarity

## Principle 3: the main actor of the prevention

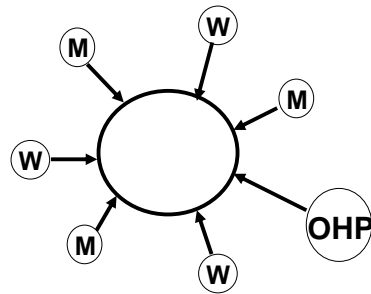
- Objective: Improve the wellbeing of the workers?
  - ➔ Therefore: no action relevant without the knowledge of the work situation that have only the workers
- The workers are then:
  - ✓ the main **actors** of the prevention,
  - ✓ and **NOT** the objects of the prevention

➔ participative approach *vs consultative*

➔ *Dialogue*

➔ Participative approach

➔ Approach based on the dialogue



## Principe 4: Training vs assistance

- Recognize explicitly the qualification and the integrity of
  - the workers
  - their local management
- Train them to take charge of themselves
  - instead of assisting them

**Qualification ≠ omniscience !**

➔ OHP, complementary checklists

## Principe 5: The nature of the problems

- The worker “lives” his work situation
  - Not as a succession of distinct and independent facts
  - BUT as a whole
    - the noise influences the relations
    - the technical organization between workplaces influences the risk of MSDs
    - the division of responsibilities influences the work content

**“all problems are linked”**

➔ Global approach:

Whatever the problem (*noise, physical load, chemical agents, MSDs, stress ...*)

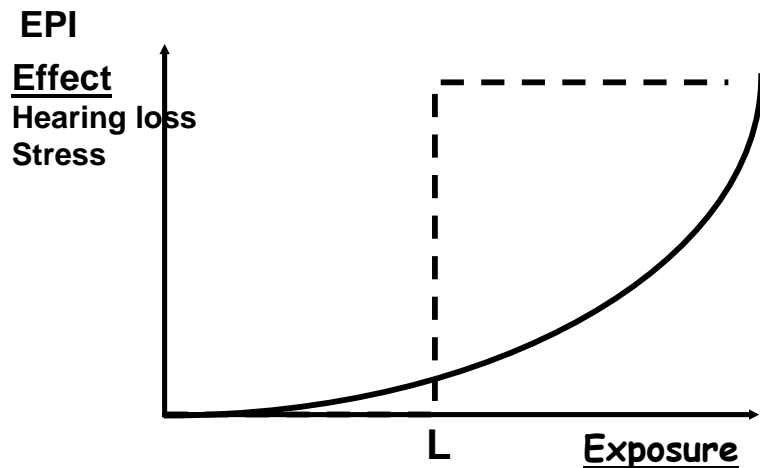
Consider them in the general context of the work situation

And not sequentially as a function of external circumstances (EU directives...)

## Principle 6:

legalistic

preventive



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## → Objectives

- No only to be below the legal indicators
- But to seek an optimal state of
  - health and wellbeing for the workers
  - technical and economical health for the company
- Not to «comply» in order to avoid legal problems: negative image of safety, occ. hygienists, occ. physicians ...
- But to contribute to the development of the company positive image, OHP - partners of the company

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## Principle 7:

### Management vs measurements



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## Example

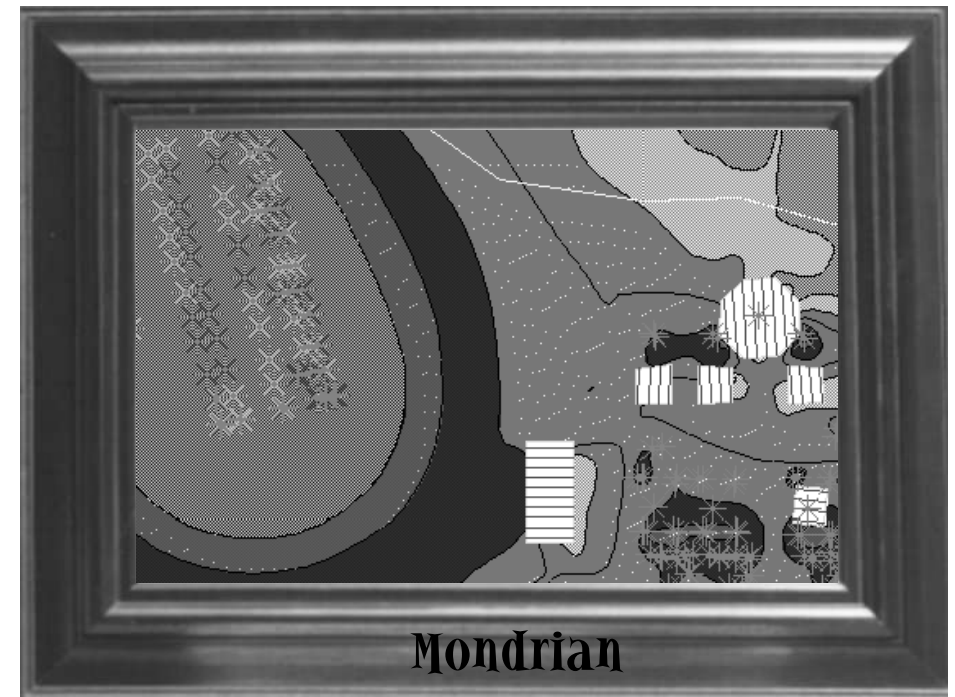
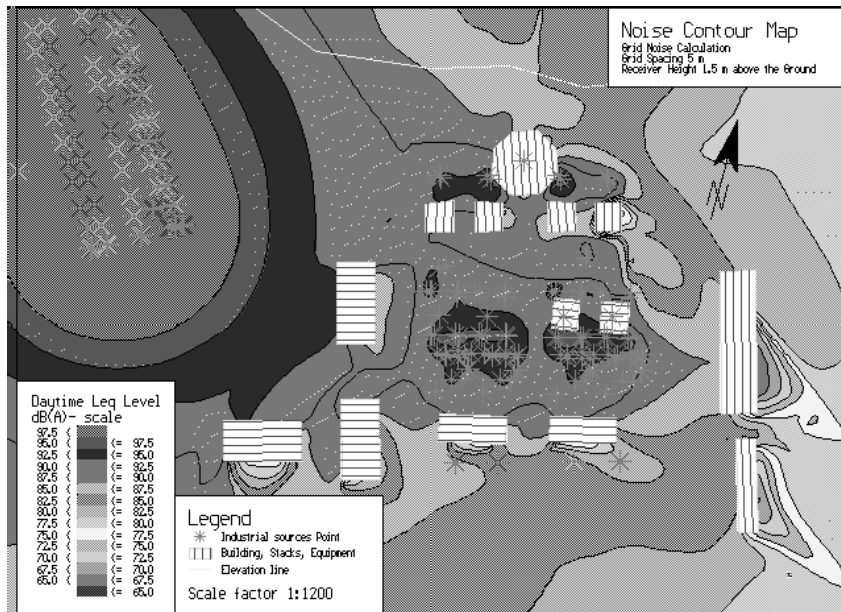
The worker is exposed to 92 dB(A)

- When? how many machines working...
- Where? close, far from the machines...
- Level during what period of time?
  - instantaneous value,
  - average on 1, 5, 60, 480 min.
- In what working conditions?

▪ REPRESENTATIVENESS?

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Company \*\*\*\*\*

Date : 01/02/2006

Subject : Noise measurements

Please find hereunder the results of the measurements made at the workstation of straightening up pipes -activity: hammering in zone 32 of building 59

Building MACHINE - Workplace	Level scale	Protection value at the workplace	Value for protection obligatory	OBSERVATIONS
BT 59 Zone 32 11h00	66 dB(A) 60sLeq	< 80 dB(A)	>85 dB(A)	Ambiant level in the workshop with hydraulic group
BT 59 Zone 32 point 1 11h03	95 dB(A) 60sLeq	"	"	Measurement at the level of the operateur: pipe 90
BT 59 Zone 32 point 1 11h05	99 dB(A) slow	"	"	Measurement at the level of the operateur: pipe 90
BT 59 Zone 32 point 1 11h08	123 dB(A) Peack	"	"	Measurement at the level of the operateur: pipe 90
BT 59 Zone 32 point 1 11h10	103 dB(A) fast	"	"	Measurement at the level of the operateur: pipe 90

## False excuses

- “What is not quantified does not exist”  
“Engineers... ask us for quantitative data”
- “Quantitative evaluation of exposure leads to solutions”  
**How much? vs Why? and how?**  
**The global vs the details**
- “It is necessary to measure and quantify the exposure to determine whether there is a risk”  
**Legalistic vs preventive approach**
- “It is necessary to measure to objectify the "subjective" complains of the workers”  
**Recognize explicitly the qualification and the integrity of the workers and their local management**

## Quantification of exposure when it is indispensable for:

- Scientific research
- Dose - effect - response relationships
- Compensations
- Court
  - (Compare before – after)
- To go deeper on a particular point: then points measurements
- To optimize costly and sophisticated solutions : then points measurements



## Conclusions:

### Evaluation of the exposure in quantitative terms

- Very complicated
- Long, expensive
- Little necessary at the beginning
- Little used in the field in a representative way

To be done after improvement to evaluate the residual risk



“The cost to measure the exposure correctly is greater than what several developing countries spend for health per capita per year“

Paul Oldershaw  
Control Banding



“It is not unusual to see more attention given to exposure assessment and monitoring than to risk prevention and control.

The **fascination** exerted by sophisticated equipment and by numbers is, for some reason, greater than the interest in designing pragmatic solutions to prevent exposure”

B. Goelzer (1996)



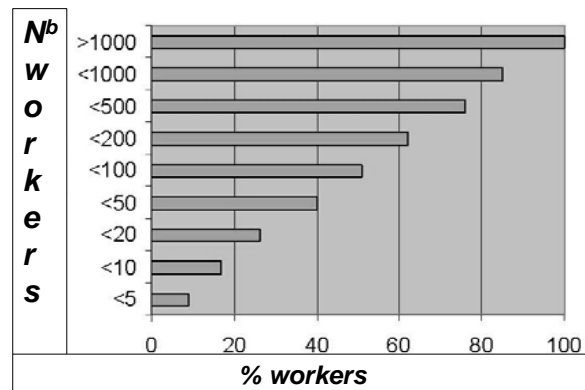
➔ No measurements a priori  
costly  
long and difficult  
not representative

Prevention >>> measurements

Management >>> assessment

- Decrease the importance of the metrologists
  - Develop personal enhanced value through prevention  
its management  
rather than through  
measurements (less instruments)  
descriptive studies  
reports that are not read...
  - Train people to take actions rather than measure  
prevention rather than evaluation
- ➔ Modify the training programmes

## Principle 8: SMEs



➔ Develop methods applicable in SMEs  
And not only in the large companies

## Conclusions

- *Participation of the workers*
- *Start from a comprehensive approach*
- *Progressive approach*
- *Based on the people in the field*
- *Objective: the best possible conditions*
- *Measurements after, not before*

How??????

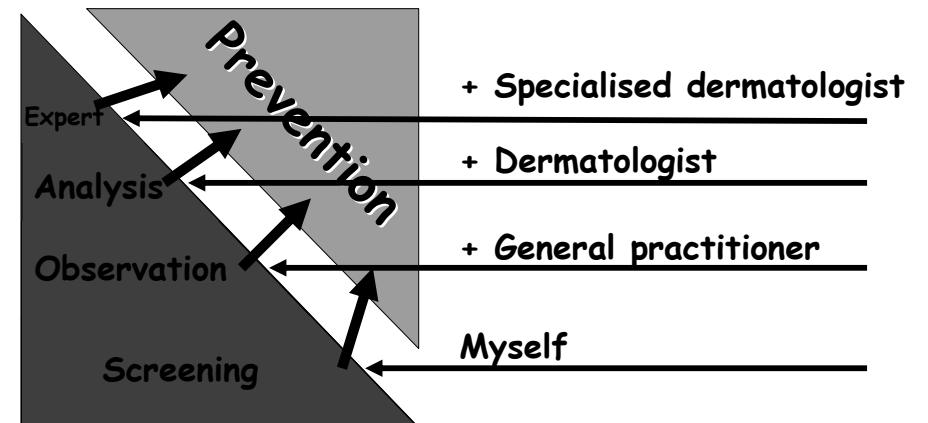


## A strategy

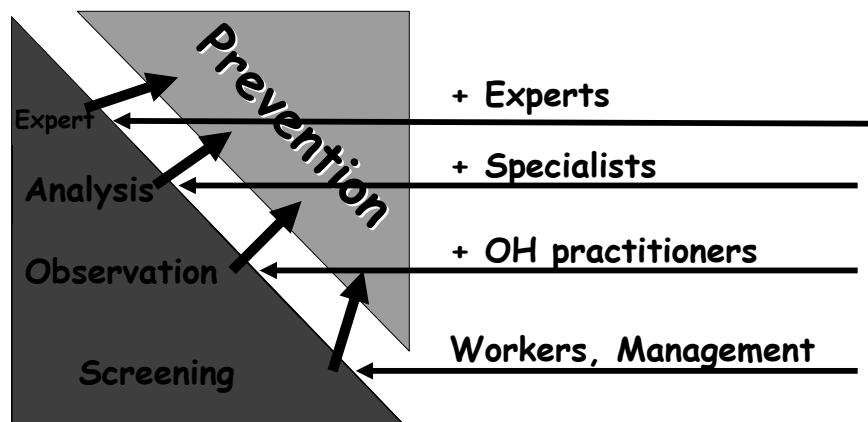
- Coordination of the actors
  - Artillery, Tanks, Infantry
  - Workers, OH practitioners, experts
- in time ( in sequence)
- to reach the goal in the way
  - easier
  - faster
  - more economically

≠ method

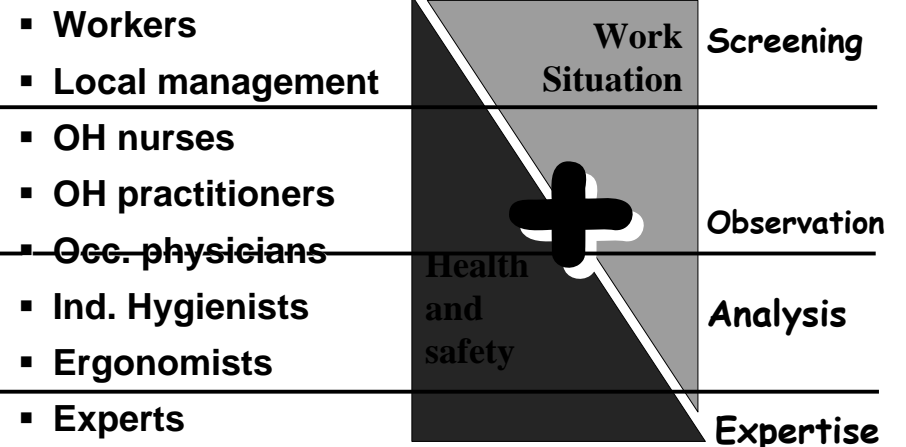
## Management of public health



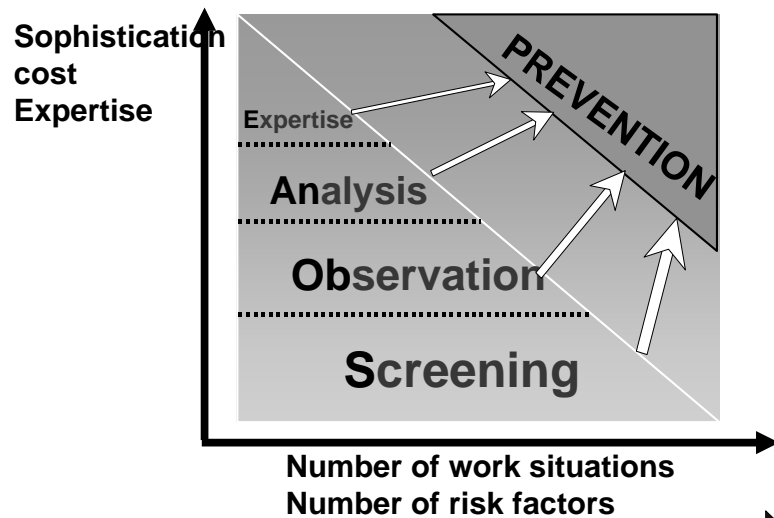
## Management of occupational health



## People involved



# Prevention Strategy SOBANE



	Stage 1 <i>Screening</i>	Stage 2 <i>Observation</i>	Stage 3 <i>Analysis</i>	Stage 4 <i>Expertise</i>
• When?	Systematically	When a "problem" is detected	More complicated Cases	Very complex cases
• How?	Opinions	Qualitative observations	Ordinary measurements	Specialised measurements
• Cost?	Very low	Low	Average	High
• Duration	10 min	2 hours	1 day	A few days
• By whom?	Workers + company management	Workers + company management	Same + specialists	Same + specialists + experts
• Knowledge - working conditions - Hygiene	Very high Low	High Average	Average High	Low Specialised

	Screening	Observ.	Analysis	Expertise
<b>S C R E E N I N G</b>	Areas			
	Work organization	Work organization	Work organization	
	Machines			
	Safety			
	---			
	Noise	Noise	Noise	
	Chemicals	Chemicals	Chemicals	Chemicals
	---			
	Work content	Work content		
	Psycho environm.			

## The first day of the intervention Level 1: *Screening*

- Guide very simple to understand and use
- Fast and little costly

Used by the workers and the local management

### Conclusions:

- What to do to improve directly the situation
- What aspects require a more specific *Observation*

One or 2 weeks later  
**Level 2. *Observation***

Guide simple to understand and use

- A little more costly and time consuming

Used again by the persons in the field

- the workers and their local management
- to find how to work otherwise with less noise
  - Redevelopment of the work areas
  - Modification of some procedures
  - Change of tools
  - ...
- to determine what has to be *Analysed*

1 or 2 months later  
**Level 3. *Analysis***

Method more sophisticated to understand and use

- More time consuming and more costly

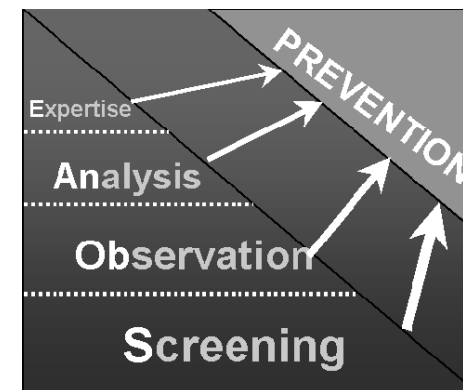
Used by an OH practitioner

- to study the risk qualitatively and quantitatively
  - when it is indispensable
    - to understand all the components of the risk factor
    - to identify more sophisticated solutions

3 months later  
**Level 4. *Expertise***

- Techniques complementary and specific to develop even more sophisticated solutions
- Knowledge and means very specific
- Very specialized persons
- Occasional and detailed studies according to recommendations specified by those who conducted the 3 first levels of the strategy and oriented toward a specific item

**Tools to implement the  
SOBANE philosophy**





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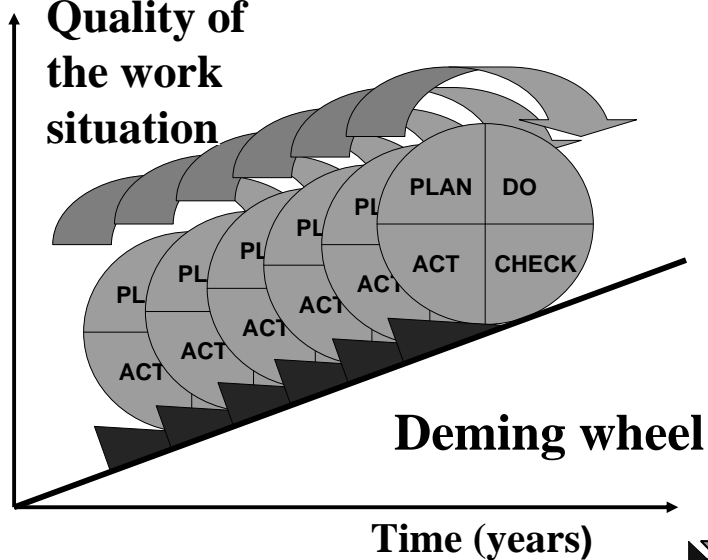
- 1 *Social facilities*
- 2 *Safety (accidents, falls...)*
- 3 *Machines and hand tools*
- 4 *Electricity*
- 5 *Fire and explosion*
- 6 *Lighting*
- 7 *Work on VDUs*
- 8 *Noise*
- 9 *Thermal environment*
- 10 *Chemical agents*
- 11 *Biological agents*
- 12 *Musculoskeletal disorders*
- 13 *Whole body vibration*
- 14 *Hand-arm Vibration*

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## Role of the OH practitioner

Quality of the work situation



Deming wheel

Time (years)

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## Role of the OH practitioner

- To make the partners
  - Direction
  - Trade-unions
  - Workers
  - Safety and health Committee
 aware of the advantages of such a strategy
  - for each of them individually
  - for the whole company

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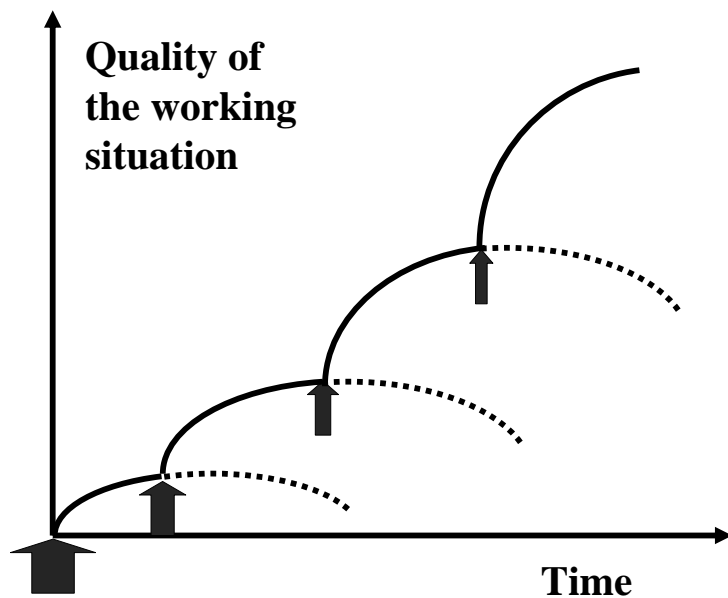
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## Role of the OH practitioner

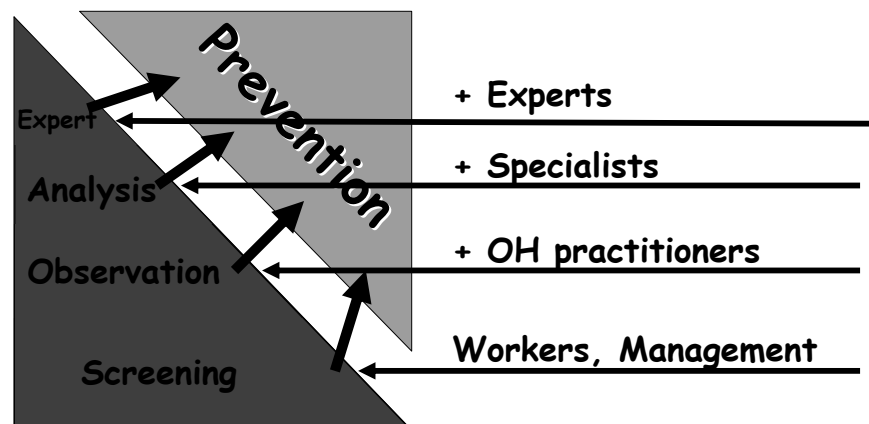
- To overcome the inertia
  - Lack of understanding
  - Lack of confidence
  - Resistance to changes
  - Fear of the unknown
  - Rationalization
  - Procrastination
  - Weariness, lassitude
  - Laziness

## Role of the OH practitioner

- To follow closely the application of the methods to avoid ambiguities
  - Discussion
  - Decisions
  - Synthesis
- To periodically re-start the use of the strategy while taking care that the process develops itself in the company



## Management of occupational health



## References

J. Malchaire - Strategy for prevention  
and control of the risks due to noise  
*Occup Environ Med* 2000;57:361–369

>10 articles in peer-reviewed journals

Keywords: SOBANE, Déparis



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Thank you for your attention...

