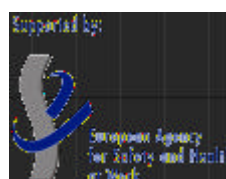




GUIDE OF BEST PRACTICES ON THE CO-ORDINATION OF HEALTH AND SAFETY IN THE CONSTRUCTION SECTOR



Have contributed to this document:

FIEC: FIEC is the European Construction Industry Federation, representing via its 32 national Member Federations in 25 countries (17 EU & EFTA, Cyprus, Czech Republic, Hungary, Poland, Romania, Slovakia, Turkey and Bulgaria) construction enterprises of all sizes, i.e. small and medium-sized enterprises as well as "global players", performing all sorts of building and civil engineering activities
Avenue Louise 66 – 1050 Bruxelles – Tél : +32 2 514 55 35 – Fax : +32 2 511 02 76 – E-mail : info@fiec.org

EFBWW: The EFBWW is the European Federation of Building and Woodworkers, representing 2.5 million workers via its 50 member organisations in 16 European Countries.
The most important tasks of the EFBWW are influencing policy and political lobbying, developing a European Trade union policy for the wood and construction sectors, representation and cooperation with sister and other organisations and research.
Rue Royale 45 – 1000 Bruxelles – Tél : +32 2 227 10 40 – Fax : +32 2 219 82 28 – E-mail : info@efbh.be

SEFMEP: Studies, projects and construction site audit and coordination activities are the main activities of SEFMEP together with developing self-teaching and project-management software.
SEFMEP also conducts training activities through its European Focus Network (Spain, Italy, Portugal, Luxemburg and Belgium) with the support of European professional organisations.
Val des Seigneurs 71 – 1150 Bruxelles – Tél : +32 2 742 14 15 – Fax : +32 2 742 14 16 – E-mail: info@sefmep.com

Editorial team: André Demoisson
André Pelegrin
Aurélien Moreau
Jose Gascon I Marin
Laetitia Passot
Lars Vedsmand
Pierre Lorent
Rolf Gehring

Tips for the reader:

Information contained in this edition does not necessarily reflect the position or views of the European Commission.

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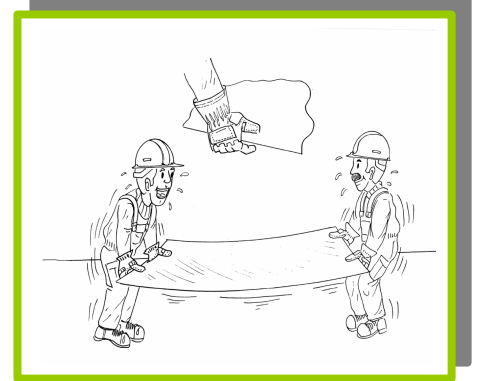
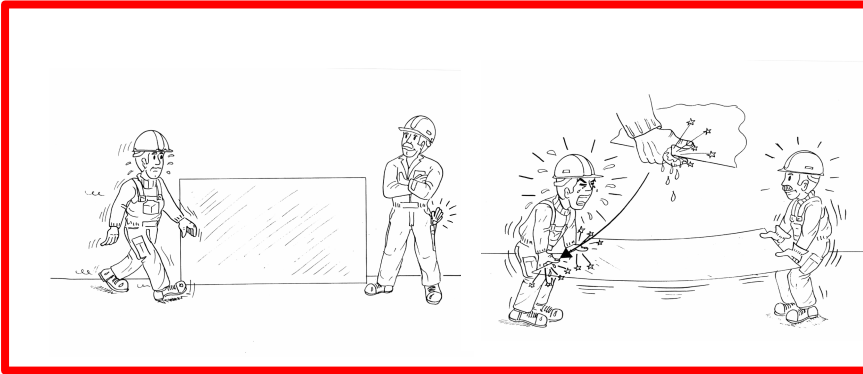


I. OBSERVATIONS

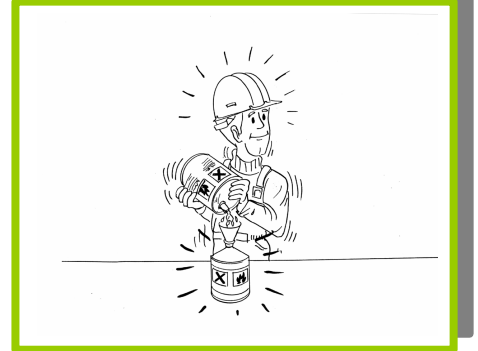
A - Dangers on work sites

Workers are faced with **several of dangers** on work sites :

1. **Physical dangers** : falls, cuts, blows, burns, noise, radiation, etc.



2. **Chemical dangers** : dust, smoke, toxic discharges, gas, etc.



3. **Biological dangers** : viruses, bacteria, mycosis, biological antigens, etc.



4. **Psychological dangers** : stress.

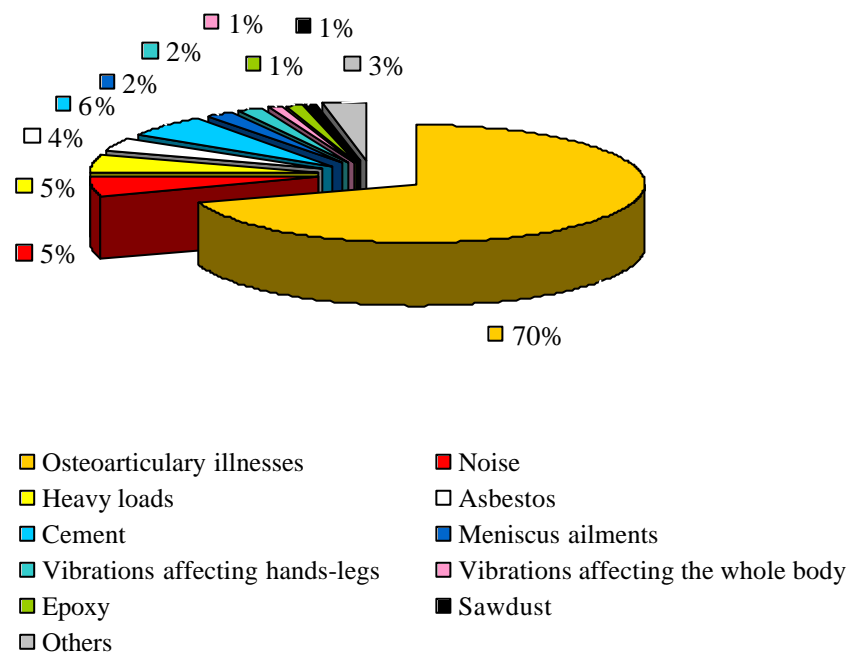


B - Professional illnesses

It is a fact : work is not always synonymous with health.

In 2000, the Foundation for the Improvement of Working and Living Conditions, in Dublin, carried out its third survey on working conditions in Europe. Osteoarticular problems continue to figure very prominently among professional illnesses: 33 of the people interviewed suffer from back pains, all sectors taken together.

In the construction sector, 70% of workers suffer from osteoarticular pains (in their limbs and back).

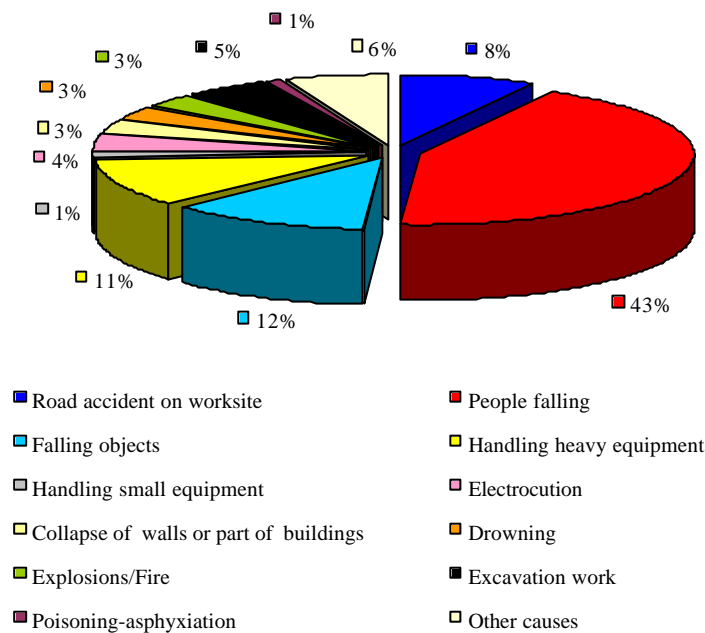


Despite all the speeches about the benefits that the new technologies are supposed to bring in terms of improving living and working conditions, the high number of professional illnesses is an alarm signal.

“Let us be attentive together!”

C - Breakdown of fatal accidents at work

Average breakdown of fatal accidents at work in over 30 years



Falls of people are responsible for approximately **43 % of fatal accidents** on work sites in Europe.

The most frequent accidents occur during work using **ladders or scaffolding**.

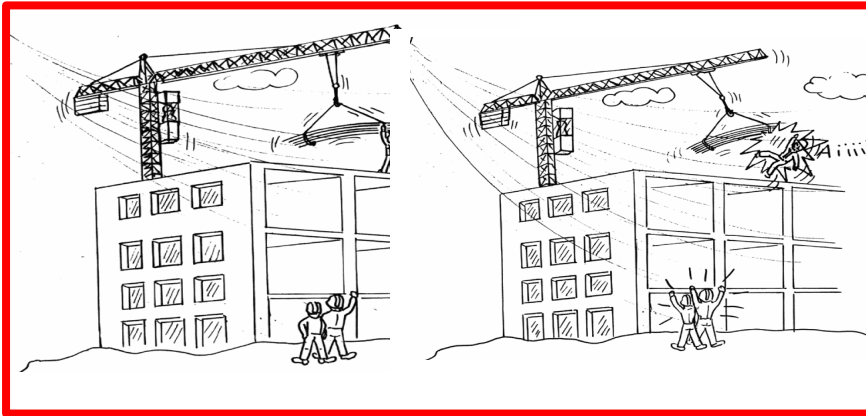


It is for enterprises to **train their workers** in the use of safety equipment. Workers must **comply with the safety instruction** that they are given.

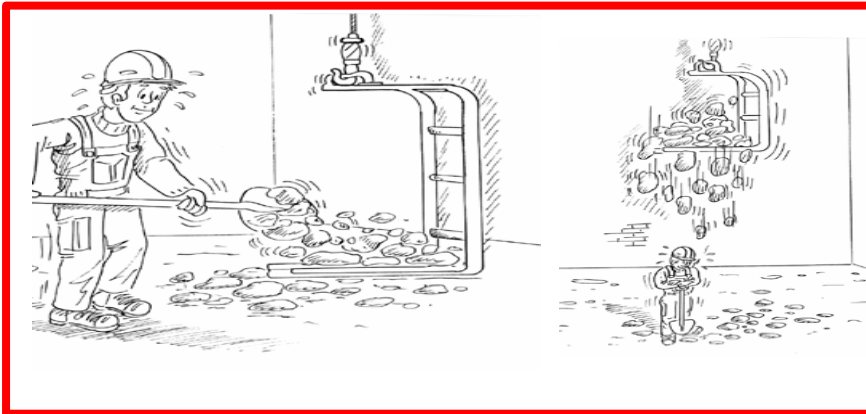
Source : Eurostat documents adapted by Sefmep



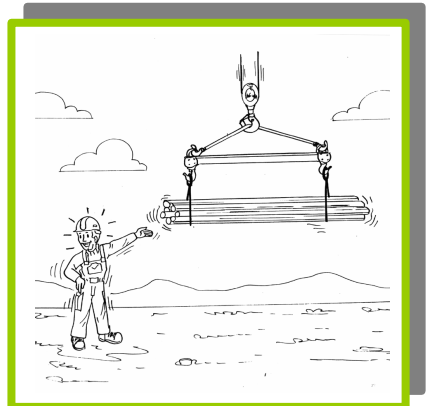
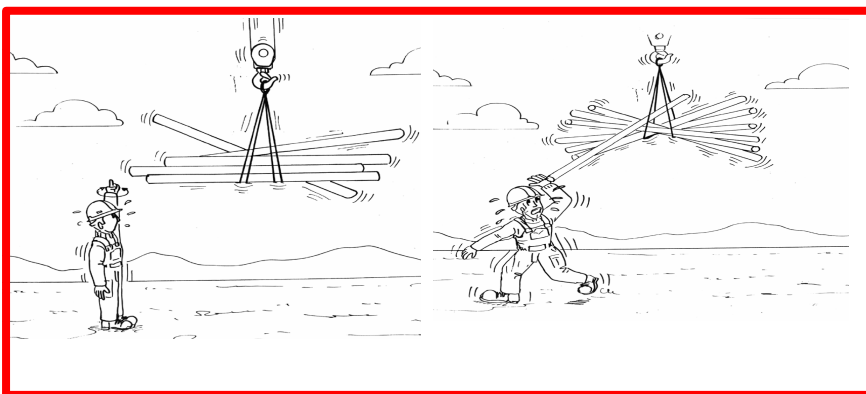
People falling = 43 % of fatal accidents on work sites



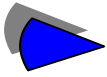
Falling objects = 12 % of fatal accidents on works sites



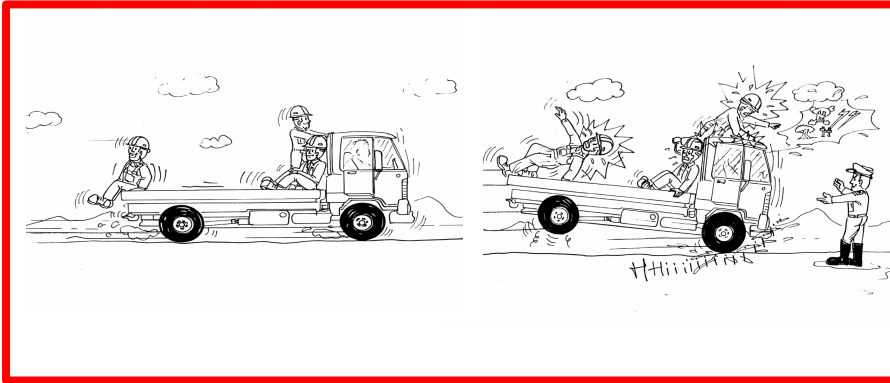
Handing of heavy equipment = 11 % of fatal accidents on work sites



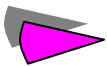
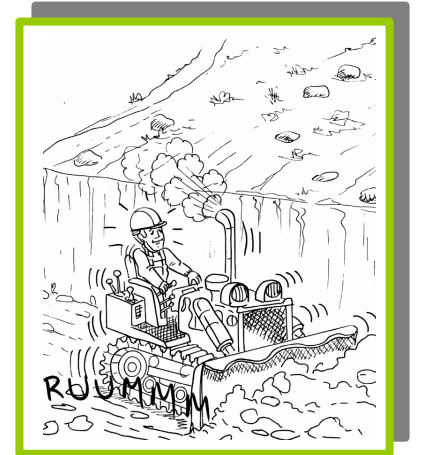
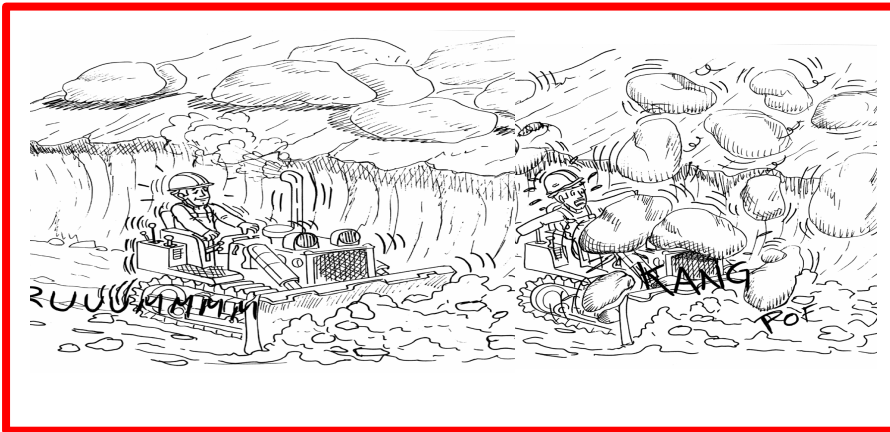
Accidents can happen in no time and can result from an insignificant movement or action.



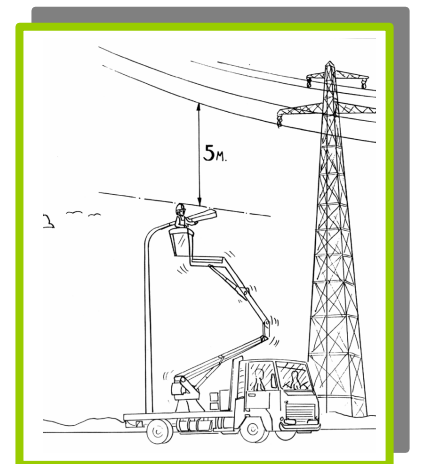
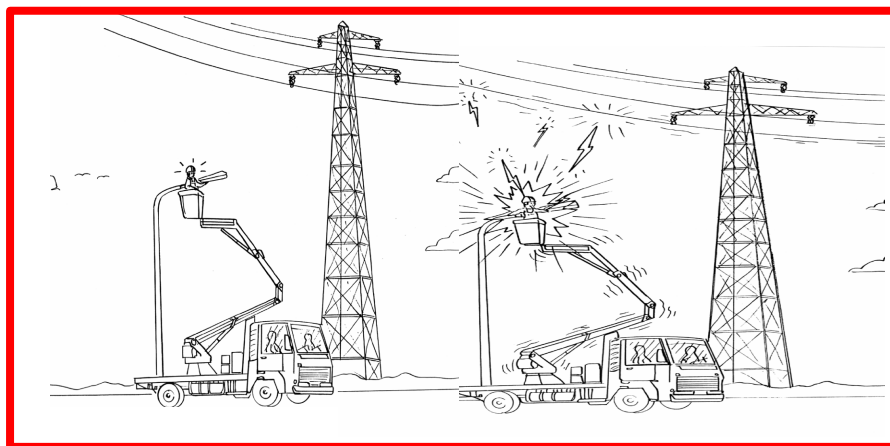
Road accidents on works sites = 8 % of fatal accidents



Land excavation = 5 % of fatal accidents on works sites



Electrocution = 4% of fatal accidents on works sites



« A simple gesture can save a life »



II. PREVENTION IS EVERYONE'S BUSINESS

A - The prevention challenges

The absence of a prevention policy against professional risks has negative consequences for everyone:

-> The employees

- Health problems
- Loss of earnings
- Climate of insecurity
- Degradation of employees/employer relations and employees/customer relations

-> The enterprise

- Extra production costs
- Drop in profits
- Loss of expertise for the company because of the absence from work of the victim
- Delivery delays
- Negative corporate image
- Degradation of employer/employees relations

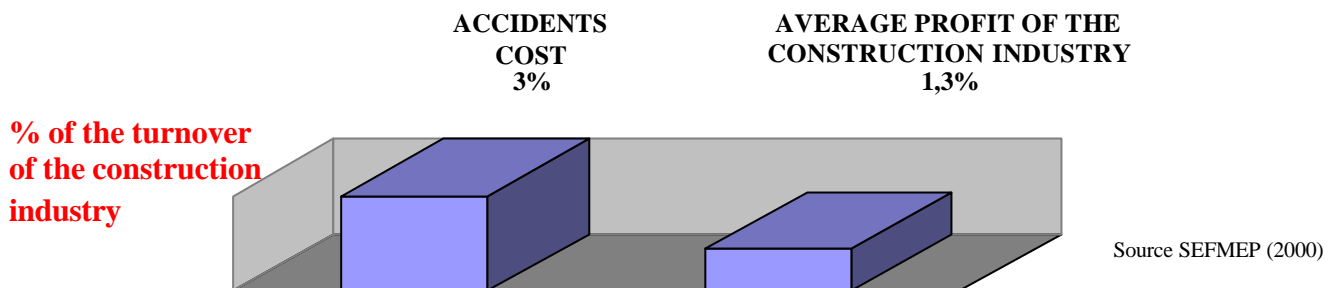
-> The contractor

- Delivery delays
- Negative corporate image
- Degradation of contractor/employees relations
- Increase in the cost of execution of the work

Improving the prevention policy is beneficial for everyone and has direct consequences on the enterprise's performance.

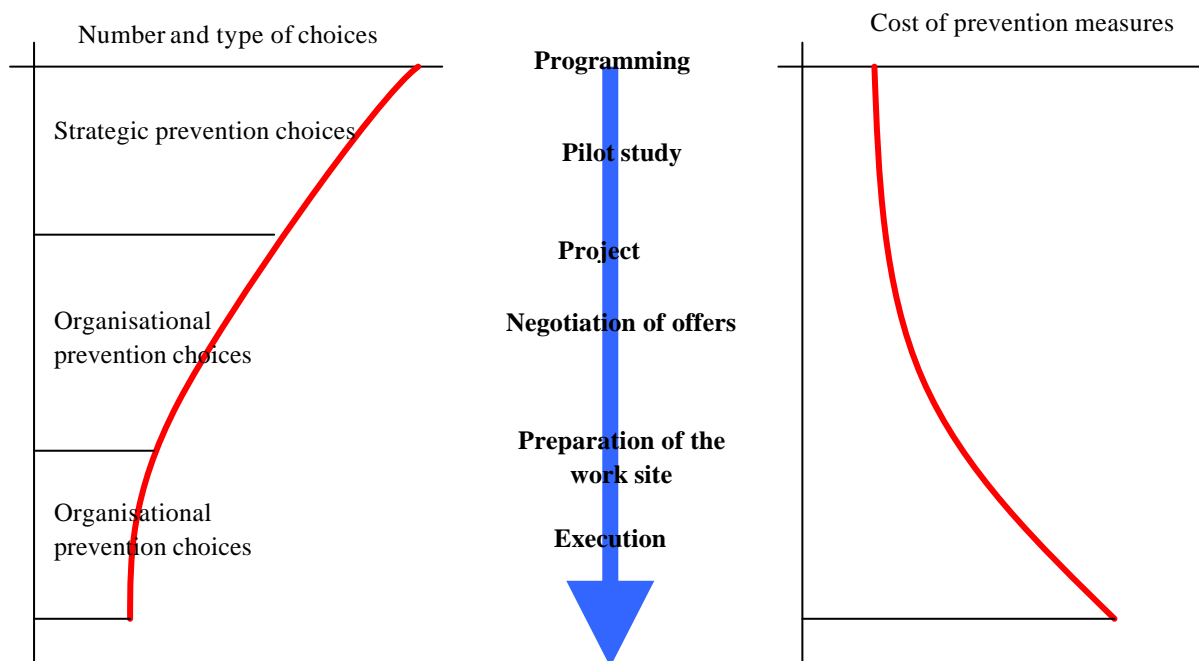
B - The risks of accidents and the costs for enterprises

Accidents at work are very costly for enterprises in the construction industry, approximately 3% of their annual turnover. The loss of earnings of enterprises can be estimated at approximately 20 billion euros for 2000.



Investing in safety allows enterprises to limit **their losses due to accidents at work**, which increases their annual profit.

The best investment is strategic prevention:



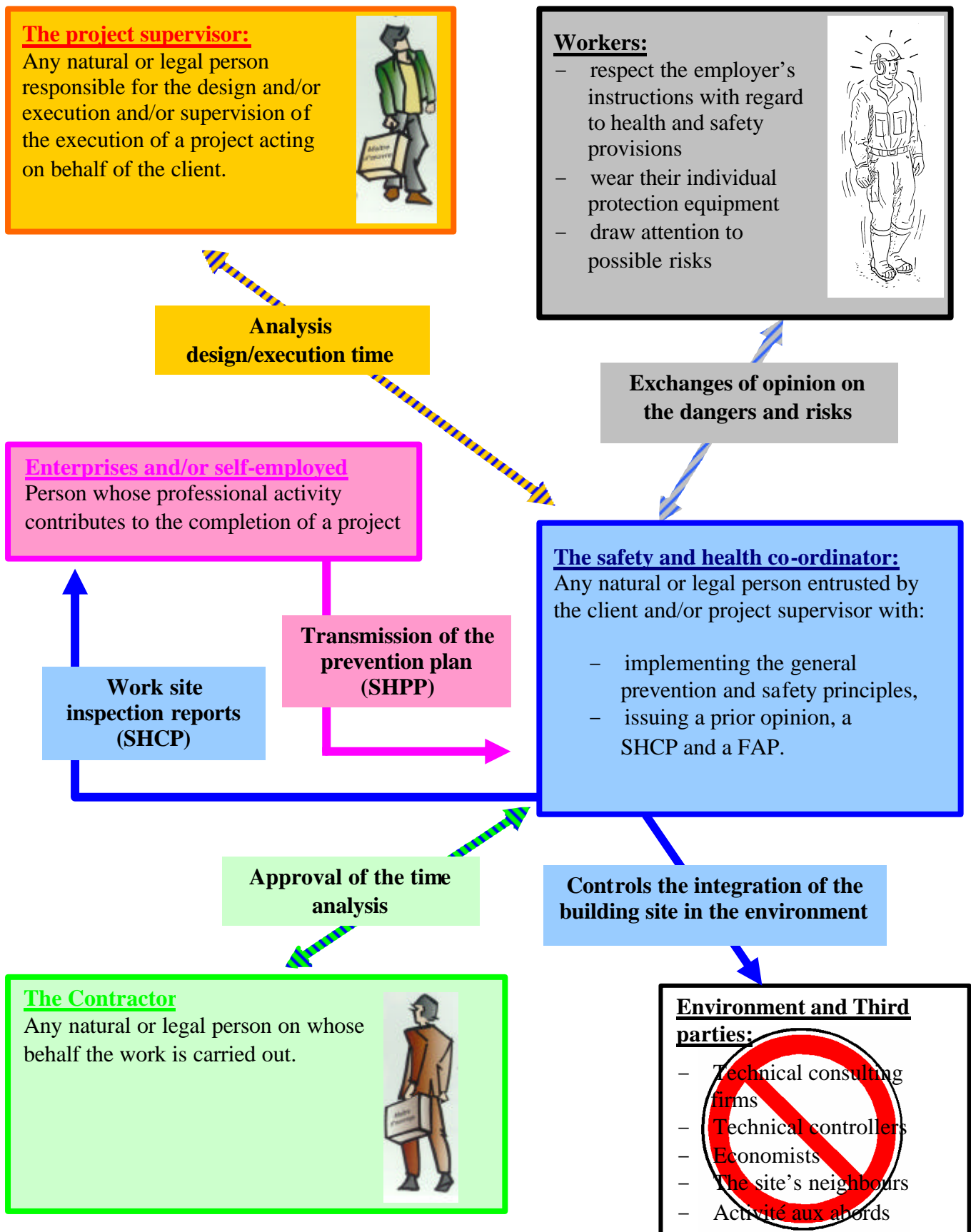
The prevention strategy integrates safety in the work specifications, in both the design and organisation phases. Its aim is to anticipate the difficulties that worker encounter when carrying out the work in order to facilitate their job. Strategic prevention is **profitable** for enterprises: it attacks problems at source.

It is not easy to make a profit in the construction sector. Experience and numerous studies* show that a prevention strategy helps to create savings. When it is possible to combine PROFITS and SAFETY, enterprises should not hesitate.

* Europeans and health and safety at work – European Commission, DG V, Eurobarometer Opinion Poll (1991).

* First European survey on improving working conditions – European Foundation for the Improvement of Working Conditions, Dublin (1991).

C - The safety and Health Coordinator and his relations with the other parties



D - The « safety » obligations of each party

CONTRACTOR:

- ⌘ **Appoints design and execution co-ordinators** with a written contract setting out clearly the responsibilities, the means and authority granted with regard to the other parties.
- ⌘ Requests the co-ordinator to establish a **Safety and Health Coordination Plan (SHCP)**.
- ⌘ **Organises consultations** with the other clients (if there are several on the same building site).

PROJECT SUPERVISOR:

- ⌘ Transmits the **technical documents** to the safety coordinator.
- ⌘ Draws up a **provisional work schedule** in co-operation with the coordinator.
- ⌘ **Informs the coordinator of substantial changes** affecting the analysis of risks.
- ⌘ **Finalises and publishes the technical and administrative documents** integrating the safety data of the coordinator.
- ⌘ **Integrates safety** at the architectural level following the coordinator's advice.

SAFETY AND HEALTH COORDINATOR:

- ⌘ **Integrates** the safety aspect from the project stage
- ⌘ **Co-ordinates the integration** by enterprises and self-employed people of the prevention and safety measures with regard to **work being carried out simultaneously and the succession of activities**.
- ⌘ **Visit the work site** and pass on any comments to the enterprises.
- ⌘ **Transmit and adapt** the General Safety and Health Plan, the Prior Opinion and the File Adapted to the characteristics of the Project in line with the progress of work and changes made.

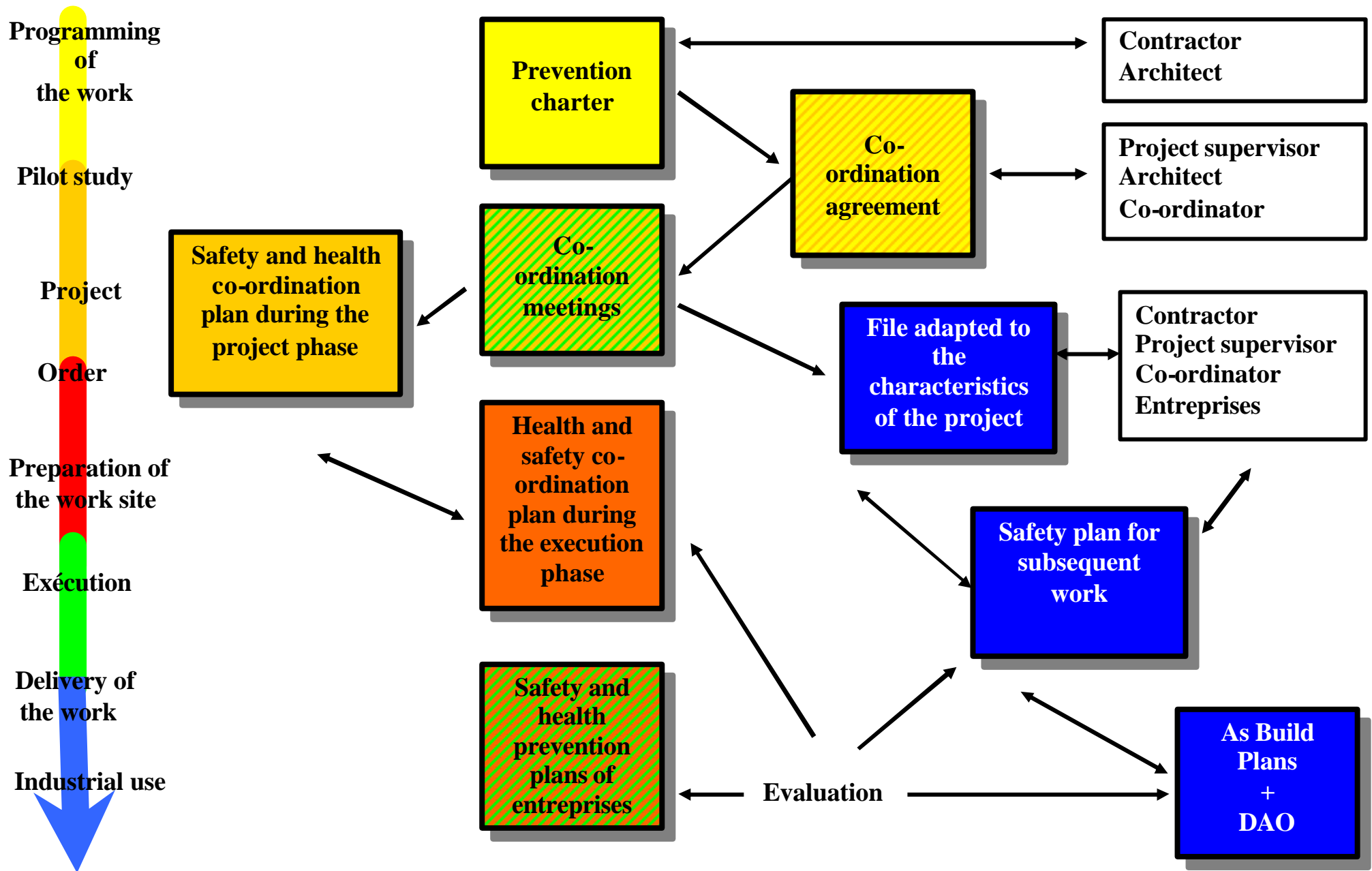
ENTERPRISE :

- ⌘ Transmit its own Safety and Health Plan to the Co-ordinator
- ⌘ **Protect the health and safety** of workers in all aspects of the work.
- ⌘ **Inform and consult workers** in accordance with the European directive 89/391/EEC of 12th June 1989 and national laws.
- ⌘ **Take account of information from the coordinator(s) in the area of safety and health.**

WORKERS:

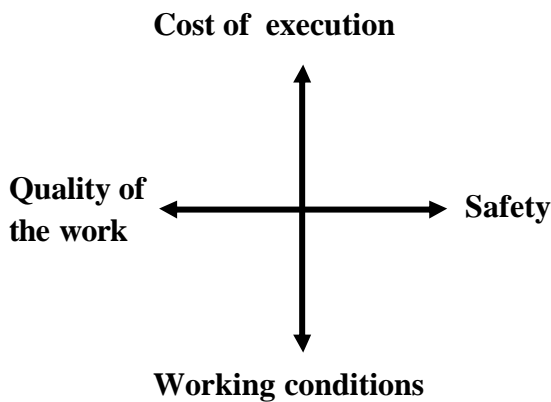
- ⌘ **Comply with the employer's instructions** concerning safety and health.
- ⌘ **Use correctly** machines, appliances, tools, substances and equipment made available (priority to be given to collective prevention).
- ⌘ **Use correctly** individual protection equipment.
- ⌘ Do not remove the **safety instructions** specific to the equipment and installations and apply them correctly.
- ⌘ Be careful with regard to their own safety and health and do not **compromise the safety and health of other parties** in the workplace.
- ⌘ **Point out immediately** to the person in charge any dangerous work situation.

E - The Safety and health co-ordination tools

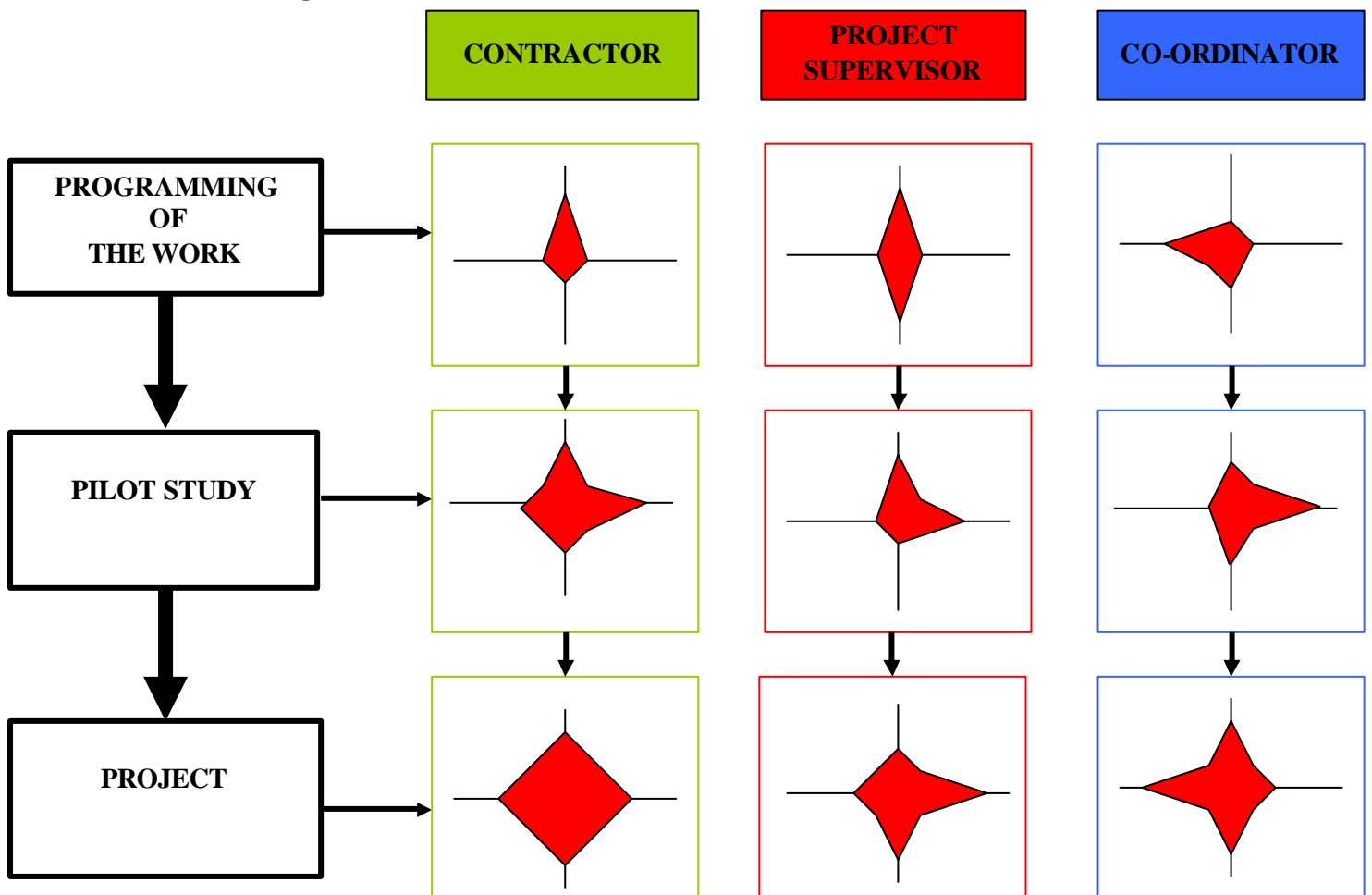


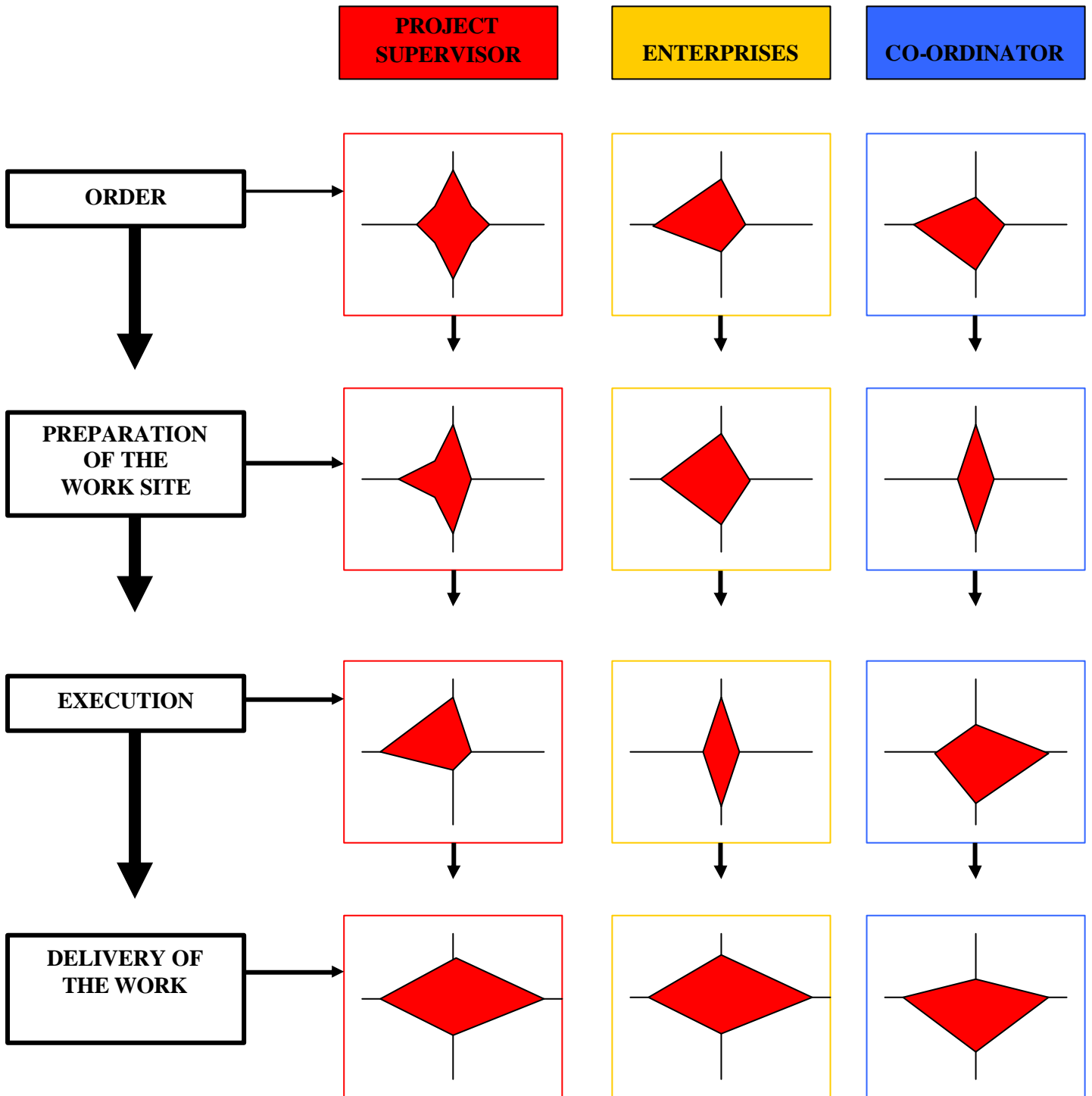
F - The contribution of each of the parties during the different phases of the project

Each of the parties in the project has a **different approach** and contributes **his experience** in order to ensure: that the work is of a high quality, good working conditions for everyone involved in the work, optimal production costs and maximum safety. If everyone co-operates, this produces a **better result**.



For example: for the programming of the work, the contractor and the project supervisor are concerned above all by the production costs. The safety co-ordinator focuses on the quality of maintenance and the working conditions on the work site.





In order to improve working conditions in SMEs, security must be taken into account from the very beginning of the project.

The best way of avoiding accidents while the work is being executed is to **analyse and find ways of avoiding risks from the design phase of the work.**

Accidents on work sites often reveal the weaknesses of the planning, equipment and procedures implemented..

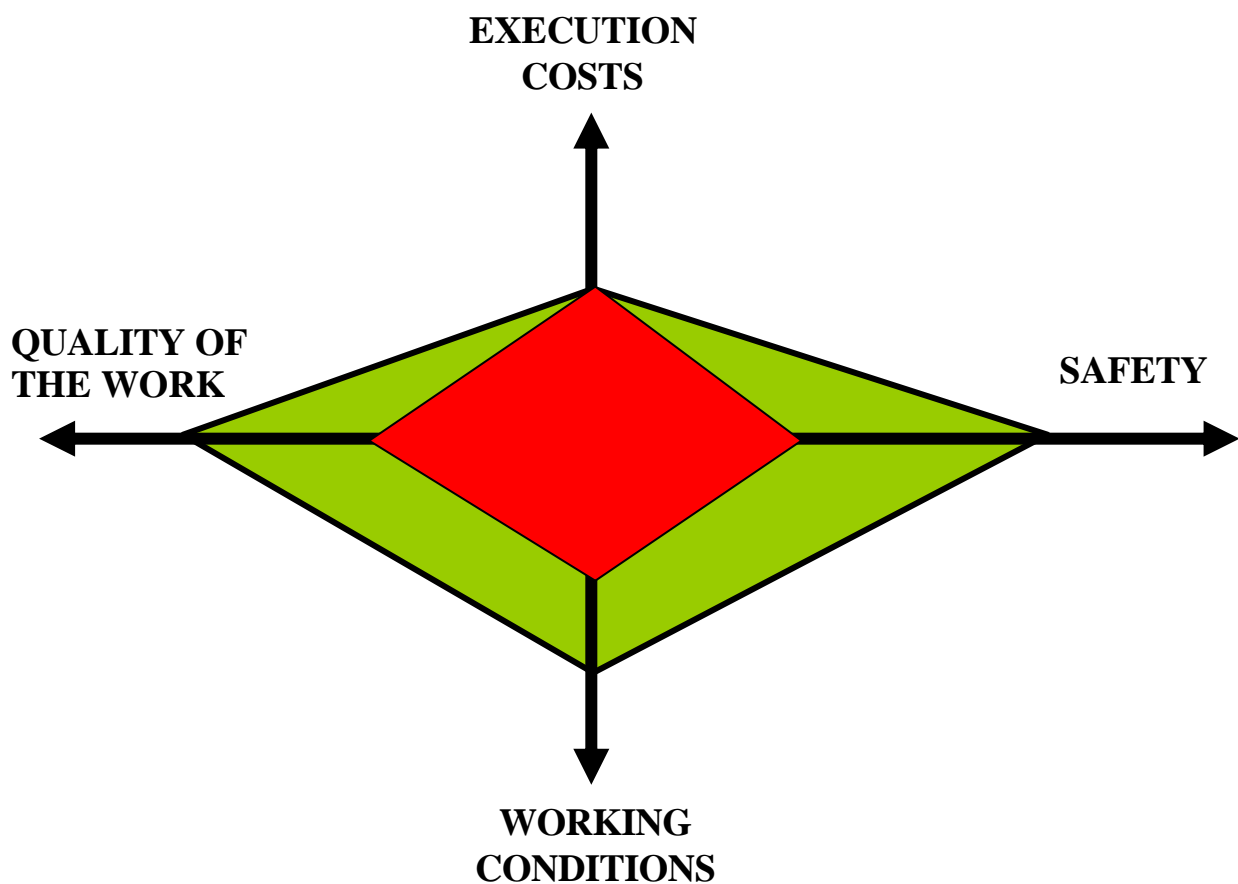
G - Added value of the co-ordination



= STATE OF THE PROJECT WITHOUT THE INTERVENTION OF THE CO-ORDINATOR



= ENHANCEMENT OF THE PROJECT THANKS TO THE CO-ORDINATOR



**Achieving SAFETY and QUALITY
WITHOUT EXTRA CHARGES**

H - The Safety and health plan

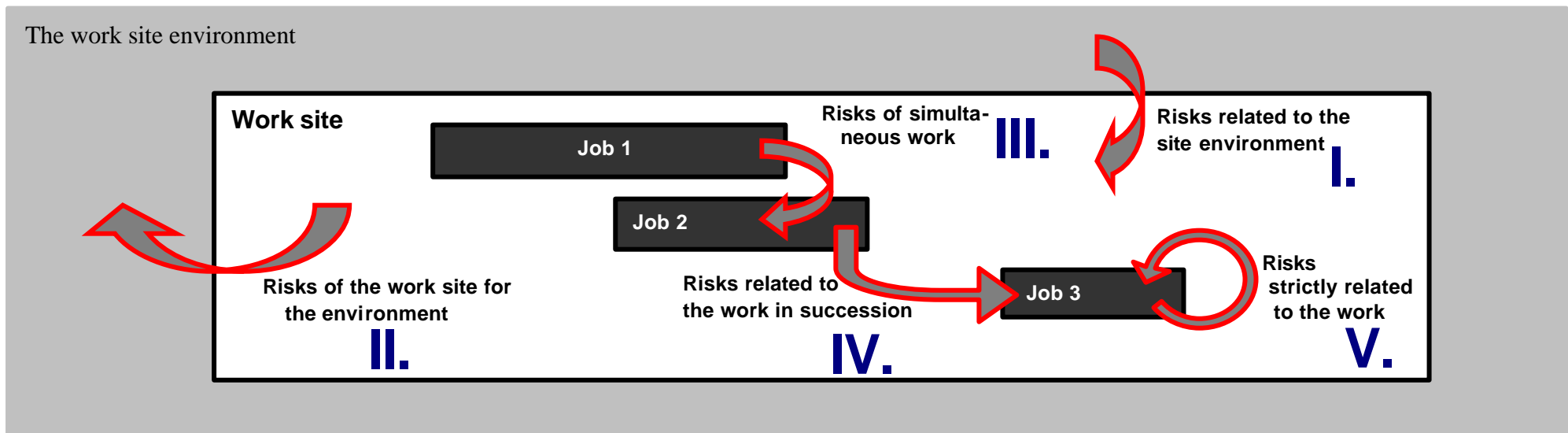
The safety and healthy plan is divided into 3 parts:

1st part: A description of the work to be carried out

2nd part: The list of the parties

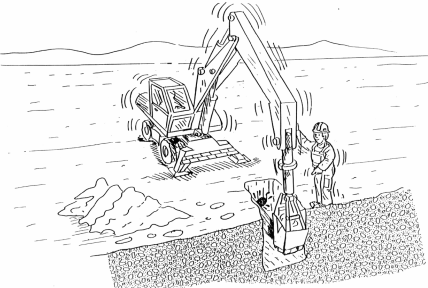
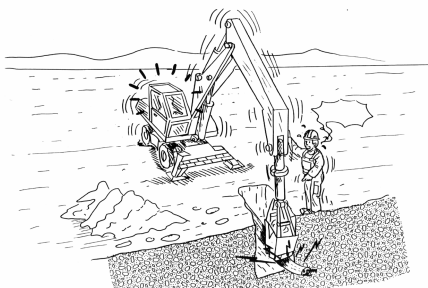
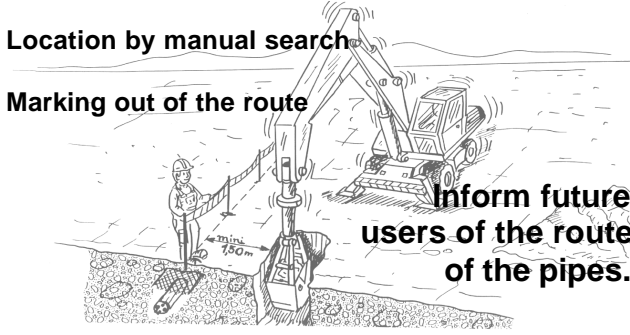
3rd part: Analysis of risk prevention

This third part is the most important. It is structured depending on the stages of work which are to take place simultaneously or in succession:

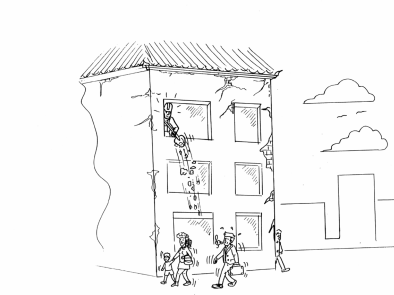

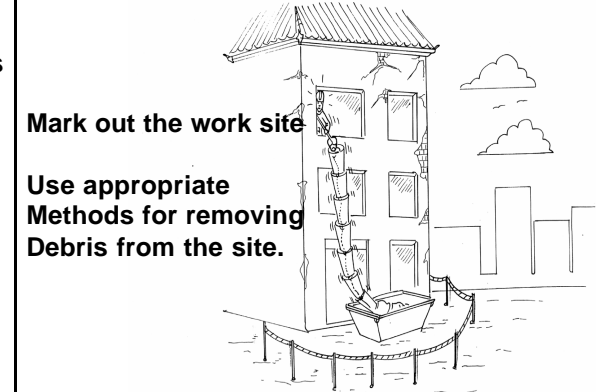


The analysis of the risk must be **adapted** progressively in line with the progress of work to take into consideration **technical choices** and the **comments of all the parties involved in the process.**

I. Analysis of risks related to the work site's environment :

Environmental elements	Detectable risks	Suggested preventive measures	Phases			Comments
			Project	Site	FAP	
<p>Buried pipes</p> 	<p>Electrocution Breaking of pipes</p> 	<p>Transfer the plan of the underground Installations to the enterprise</p> <p>Location by manual search</p> <p>Marking out of the route</p>  <p>Inform future users of the route of the pipes.</p>	X	X	X	Schedule a tool-box meeting

II. Analysis of the work site risks for the environment :




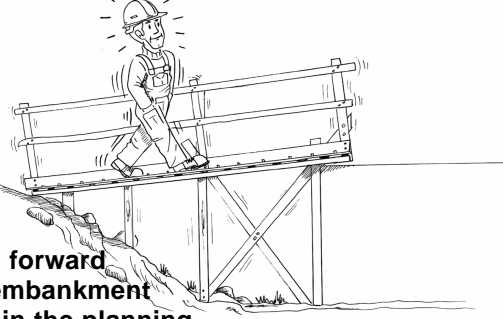
Activity or element of the work site	Detectable risks for the environment	Risk target	Suggested prevention measures	Phases			Comments
				Project	Site	FAP	
<p>Demolition of partitions Evacuation of rubble</p> 	<p>Falling objects</p> 	<p>Passers-by Neighbours</p>	<p>Mark out the work site</p> <p>Use appropriate Methods for removing Debris from the site.</p> 	X	X	X	Adapt the safety plan according to the method chosen



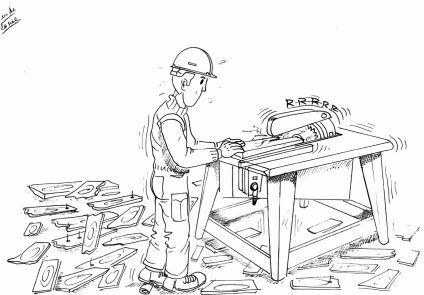
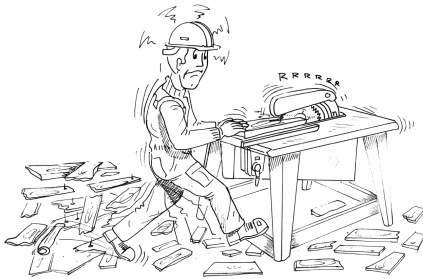
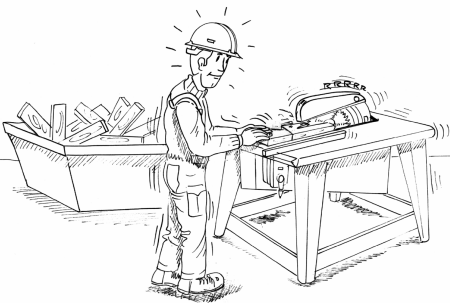
The analysis of risks in jobs out simultaneously on the work site :

Jobs that are a source of risks	Detectable risks	Jobs targeted by risks	Suggested preventive measures	Phases			Comments
				Project	Site	FAP	
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Work schedule</div>				X	X		
Drilling 	Hearing injuries 	Preparation of the concrete 	Choice of appropriate working methods. 	X	X		
Provide and distribute Hearing protection. 							

IV. Analysis of the risks linked to the succession of the jobs on the work site :

Jobs that are a source of risks	Detectable risks	Jobs targeted by the risks	Suggested prevention measures	Phases			Comments
				Project	Site	FAP	
Excavation 	Falls when accessing the building 	Protect in general 	- Install safe traffic routes.  Bring forward the embankment work in the planning.	X	X		A plan showing the site installations will be produced with the help of the co-ordinator.
					X		

V. Analysis of the risks linked to the job itself :

Jobs	Detectable risks	Suggested prevention measures	Phases			Comments
			Project	Site	FAP	
				X		

I - The file appropriate to the characteristics of the project

1) REGULATORY BASIS:

The Directive 92/57/EEC (article 5 on the “project preparation stage: duties of co-ordinators”) imposes a file appropriate to the characteristics of the project (FAP):

“The co-ordinator(s) for safety and health matters during the project preparation stage shall prepare a file appropriate to the characteristics of the project containing relevant safety and health information to be taken into account during any subsequent work.”

2) OBJECTIVES:

1. To provide future users of the project (tenants, managers, owners, maintenance services etc.) with information on the characteristics and functioning of the project;
2. To indicate to people charged with transformation work, extensions, etc. any measures that may have already been taken;
3. To specify the names of “known” parties that have been involved in the work, maintenance etc.

This reduces the risks of accidents due to a lack of knowledge of the project.

As the characteristics of the project change over time, this file must be updated regularly.

3) PREPARATION:

This file is opened during the preparation phase in order to analyse the risks related to the use of the project (maintenance – subsequent work – industrial activities). This analysis of the risks enhances the awareness of the contractor and facilitates the work of the project supervisors.

During the execution phase, the file is supplemented on the basis of information transmitted by the enterprises to the co-ordinator (As-Build /Technical Specifications/Security Measures relative to the use of the equipment on the site).

Therefore, the co-ordinator can only produce a File adapted to the characteristics of the Project with the participation and active co-operation of the contractor and project supervisors (architects and entrepreneurs).

4) STRUCTURE:

Contact details of the contractor and user

Dates and succinct description of the work carried out

Contact details of the different parties

Description of maintenance premises:

- purpose

- location

- access

- transition area

Protection procedures against safety and health risks:

- signalling, identification of the equipment

- transition areas, excavations

- work at a height

- consignment procedures

- location of invisible pipes and circuits

- identification of dangerous products

- lighting

- ventilation

- Protection systems

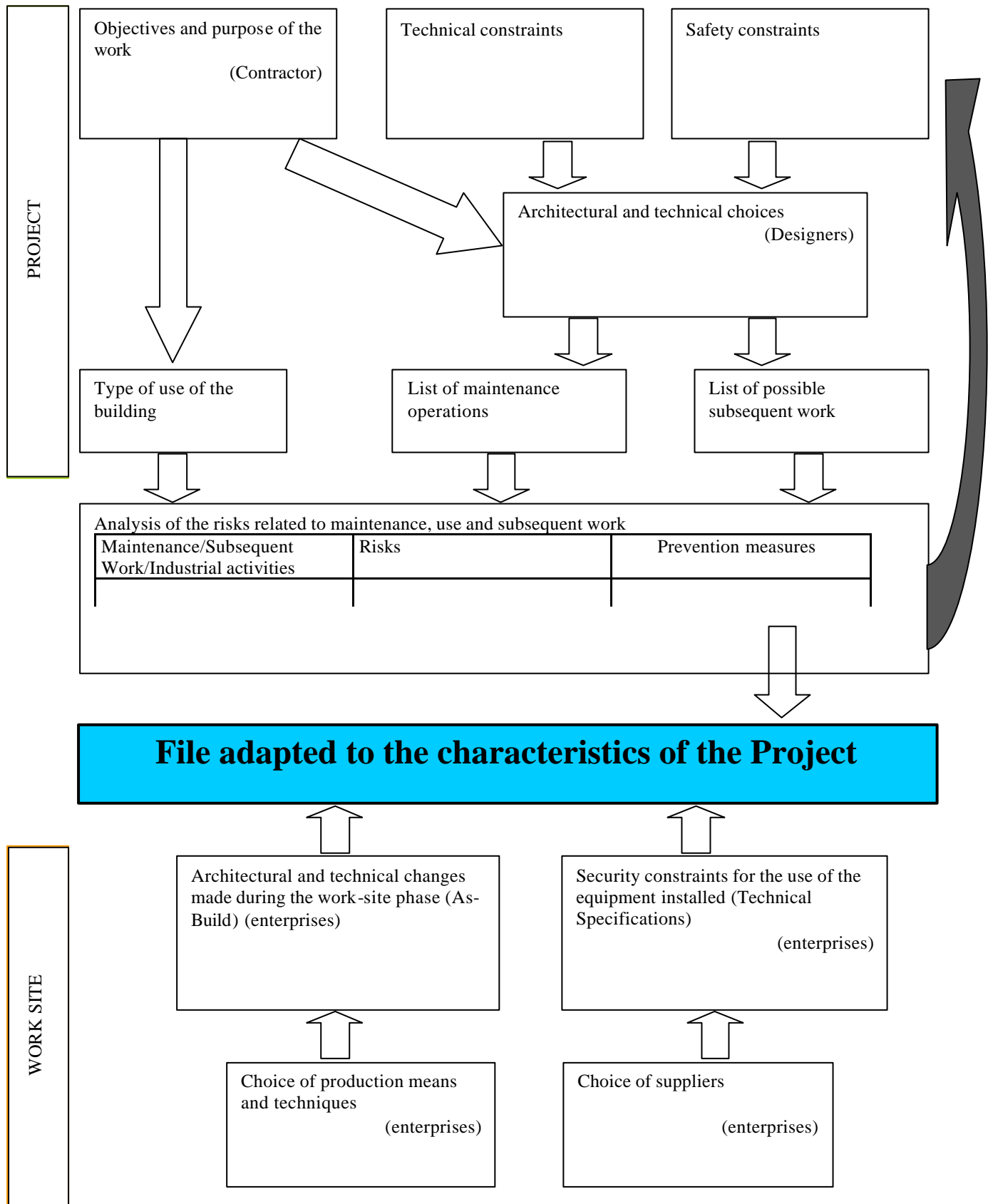
- Handling methods

Newly installed equipment (supplement to the « As-built » file) :

- function

- technical specifications

- maintenance instructions



J - The Paragon construction site : a danish example

By using the Paragon Construction Site tool a snap shot of the H&S situation at the construction site is given. This is a cost effective way to improve safety and to make the construction site a good H&S example. Via the social dialogue improvement to safety at work is made.

The Danish Contractors' Association (D.E.) and the General Workers' Union in Denmark (SID) initiated this project in order to give a straightforward tool for reducing the high number of accidents at construction sites.

The tool of the Golden Construction Site can be used by a single contractor or by all contractors at a specific site in order to improve H&S. Employers and workers, safety co-ordinators etc. can easily use the system. The tool is used by professional clients as a request and it is improvingly being used as a standard tool by Danish contractors.

The tool is based on a manual, a checklist and a timelist.

The manual

The manual is the basic tool for setting the intended H&S standard at the site or for the single contractor. The manual includes a number of exact target points. Target points concern be means of access, working light, the stability of the ground foundation, the position of cranes, the use of right scaffolds, the training of Scaffolders, the cleaning of particular areas, demolition, bricklaying, insulation, ventilation, painting etc.

Of course the manual can be revised and made up to date at the safety meetings of the site, where all the current contractors of the site are present.

The idea of wording targets points is that these points subsequent must be assessed and controlled at regular basis through out the construction process.

The checklist

The checklist (controllist) is used to register the H&S state of the art. After the site has been walked through and the risks have been assessed, a report exists on the current H&S at the specific construction site.

The checklist

Date: _____

ID	Area of activity	Green	Yellow	Red	Remarks
	Cleaning			X	Messy area d.
	Sanitary equipment and restrooms	X			
	Storerooms	X			
	Light and installations		X		Capacity check up shall be made
	Means of access			X	
	Barriers			X	Missing barrier at 2 nd floor
	Etc.				

The safety assessment of the site is normally made by the safety co-ordinator and one or more safety rep. The controllers mark in the checklist, whether the target points are:

- OK (green zone)
- Not satisfactory, improvements must be made (yellow zone) or
- Dangerous, improvements must be made immediately (red zone)

A special column at the list gives room for remarks about the current situation of the single target point.

The timelist

In order to become a Golden Construction Site it is crucial to inform all the actors at the site about the current state of the art and about the changes at the site.

The timelist is the tool to use to communicate the H&S changes at the site. All results from the checklist shall be transferred to the timelist, which is unique by including columns stating the date of control. By doing this everybody can observe where problems appear and how long time it took to transfer yellow or red spots to green spots. The list motivates for making improvements fast.

The timelist													
Site 2	Week												
	19.11	24.11	26.11	01.12	03.12	09.12	10.12	16.12	17.12				
Target point	47	48		49		50		51		1	2		
Sanitary equipment and restrooms	X	X	X	X	X	X	X	X	X				
Workshops	X	X	X	X	X	X	X	X	X				
Storerooms	X	X	X	X	X	X	X	X	X				
Light and installations	X	X	X	X	X	X	X	X	X				
Means of access	X	X	X	X	X	X	X	X	X				
Barriers and covering	X	X	X	X	X	X	X	X	X				
Lights	X	X	X	X	X	X	X	X	X				
Electric power lines	X	X	X	X	X	X	X	X	X				
Scaffolds	X	X	X	X	X	X	X	X	X				
Cleaning	X	X	X	X	X	X	X	X	X				
Demolition	X	X	X	X	X	X	X	X	X				
Bricklaying		X	X	X		X	X	X	X				
Concrete works		X	X	X	X		X	X	X				
Light concrete	X	X	X	X	X	X	X	X	X				
Carpentry	X	X	X	X	X	X	X	X	X				
Electrician works	X	X	X	X	X	X	X	X	X				
Painting		X	X	X	X	X	X	X	X				
Joinery													

Green = Nothing to remark
Yellow = Not satisfactory. Improvements must be made
Red = Danger. Improvements must be made immediately

The checklist and the timelist are meant to be displayed at the site in order to show the site's H&S shape to all involved workers and contractors.

Not just another tool ...

The means of the Paragon Construction Site are straightforward, cheap and cost effective and have proved to be a value adding way to make continuously H&S improvements.

Dialogue and co-operation among all actors of the construction process is essential. No matter which way the safety work is organised, good practice is to make sure that the Paragon Construction Site system is accepted by contractors, workers, the safety co-ordinator and the entire safety organisation of the site (safety meetings).

The Paragon Construction Site is an *additional* tool to the key H&S elements mentioned in EU Directives; i.e. the risk assessment (see the Framework Directive, art. 6) and the safety and health plan (see the Construction Site Directive, art. 3 and 5).

Legally the obligation of risk assessments is directed towards the single employer. Risk assessments are often not in conformity with the current situation at the construction sites. Instead risk assessments in the construction sector often mirror the working processes, as they were meant to be. The Paragon Construction Site system is a tool to comprehend and visualise the continuous changes of H&S at the site, from the very start to the end of the execution phase. The concept grips the fact, that workers from more contractors are included in the execution phase of constructions.



III. THE SAFETY AND HEALTH CO-ORDINATOR

A - His role

The safety and health co-ordinator advises and helps the contractor and project supervisors to put in place prevention measures during all phases of the project.

To that end:

- The co-ordinator contacts the different parties working on the site in order to collect and analyse their planned safety and health systems.
- He ensures the correct organisation of the different execution phases and controls the risks resulting from work being executed simultaneously.
- He checks that the agreements between enterprises working on the site comply with the laws in force.

B - His knowledge

- Safety and health regulations.
- The safety aspects of public procurement contracts regulations.
- Planning methods used on the work site.
- The risks related to construction techniques, the organisation of a work site, maintenance and the different operation of a site where building work may be carried out.

C - His know-how

- Understanding an offer and assessing the risks inherent in it.
- Knowing how to read plans.
- Understanding work specifications and assessing the inherent risks.
- Assessing the planning-related risks (work carried out simultaneously, deadlines. etc.).
- Assessing the risks related to the execution and maintenance of the work.
- Assessing the risks related to the techniques used and the interactions with the industrial activities at the place within which or in the vicinity of which the construction site is located.
- Formulating proposals to avoid, reduce and combat the risks at source and adapting work to the workforce.
- Establishing on the basis of these evaluations and these proposals a Safety Plan as well as a clear, comprehensible File adapted to the characteristics of the project.
- Encouraging the integration of safety in the work site's organisation.
- Encouraging the maintenance of the work site.
- Co-ordinating and ensuring the integration by the enterprises and self-employed workers of prevention measures applied to the work site.
- Adapting the Safety and Healthy Plan, special plans and the File adapted to the characteristics of the project in line with progress of the work, changes made, the choice of techniques and workers' comments.

D - His duties

- Organising mutual information meetings and encouraging the participants to express their views.
- Presenting in a positive way the measures to be taken to achieve optimal safety and health conditions.
- Negotiating and convincing the different parties of the reasons justifying these measures.
- Choosing the relevant information – reformulating it in a clear way and distributing it to all the parties concerned.
- Taking into consideration existing participation structures and integrating them in his network for the dissemination of information.
- Convincing the contractor to impose the necessary measures in the absence of a consensus.
- Select enterprises which integrate the prevention of professional risks.

E - His independence

In the same way as with the architects and consultants, independence and expert knowledge are a factor in the quality of the studies carried out and the services provided.

This implies that the “project” Co-ordinator and the “execution” Co-ordinator have complete technical and intellectual independence when carrying out their duties, even if they are recruited under a service or employment contract with the contractor and/or project manager.



The co-ordinator replace neither the enterprise’s prevention adviser not the labour inspector.



IV. PREVENTION STRATEGY

The prevention strategy can be divided into four phases:

A - Design

B - Organisation

C - Contract

D - Work Site

A –Prevention in the design phase

Integrating prevention from the design phase of the project, in order to reduce the risks at the time of the actual construction work, its use or maintenance. The prevention measures regarding the use and maintenance of the work are described in the FAP.



In order to maximise safety it is necessary to **integrate the project's safety** into the design phase, by identifying the risks of the work site from the design phase and ensuring that:

- ✗ the architectural design integrates safety,
- ✗ the equipment is appropriate,
- ✗ the equipment is well designed.

1. An architectural design which integrates safety

Far too often, protection against falls is only put in place **when the dangerous operations are finished.**

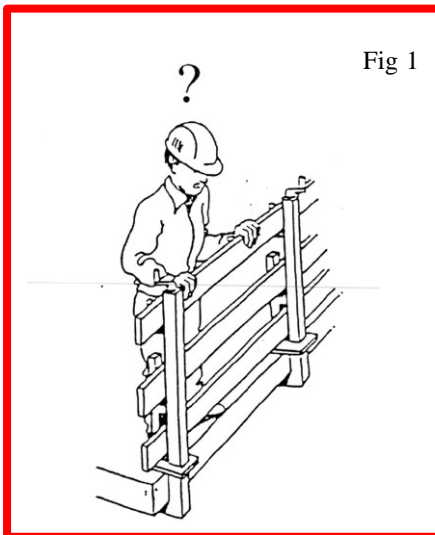
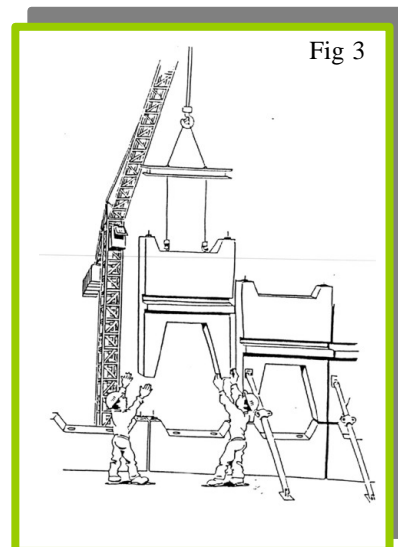
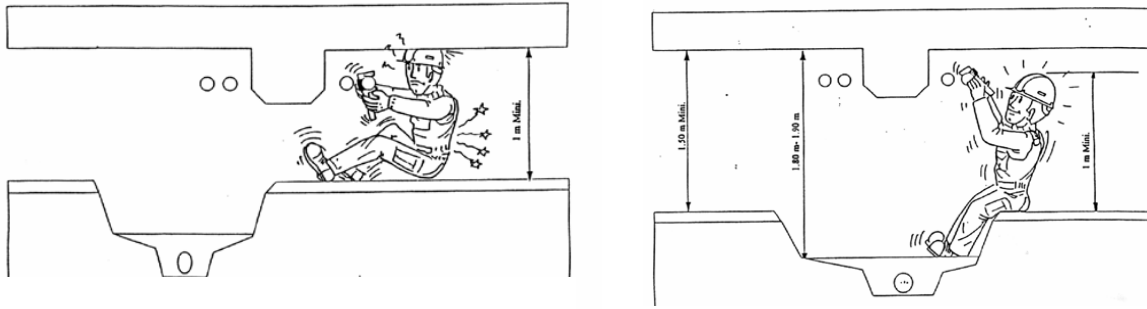


Fig 1=error: The barrier is **installed after** the shuttering, structural and concrete work, which are three particularly high-risk operations.

Fig 2=error: the construction of a modular façade involves risks of falls. **The protection of workers** requires appropriate means and procedures (**fig3=solution**).

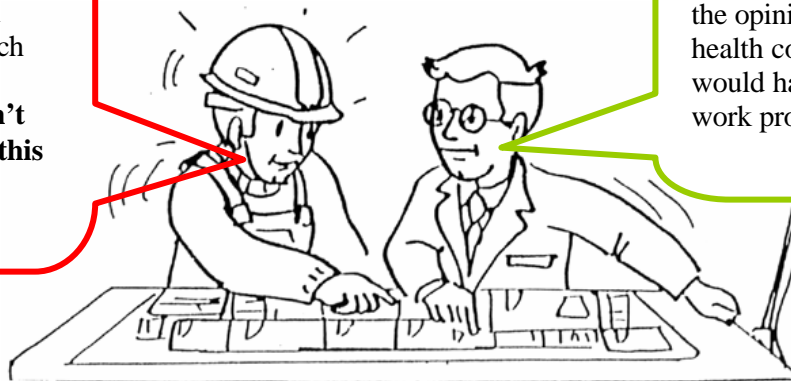


1st example: Think about integrating safety from the design phase

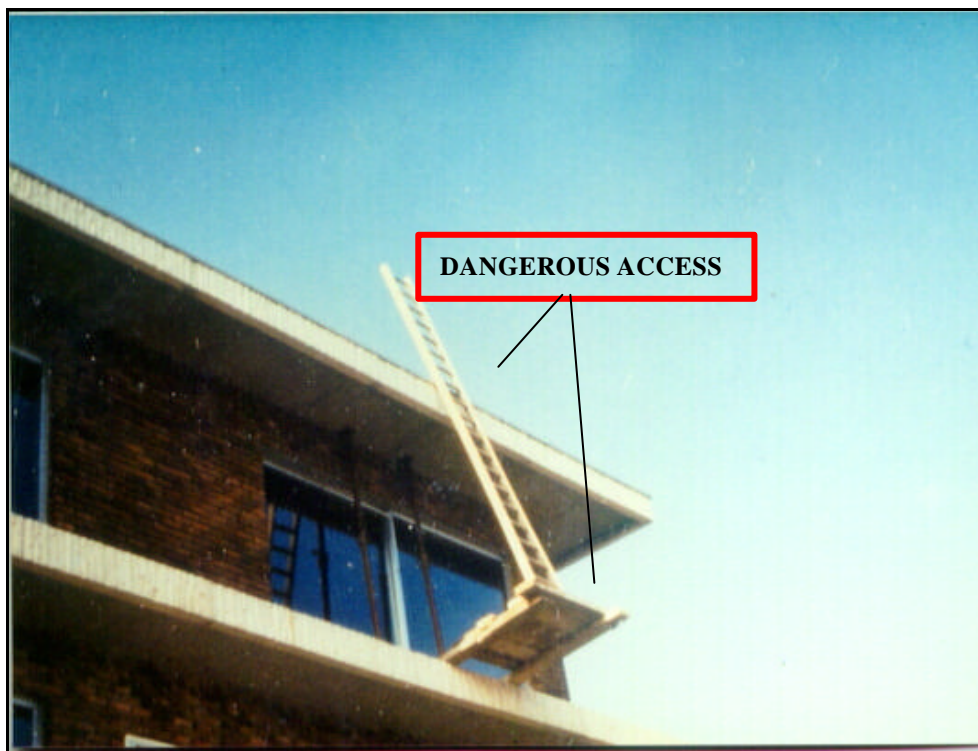


It is very difficult for my worker to work around this girder. There's not enough room to move, which makes his work dangerous. **Couldn't we have foreseen this problem?**

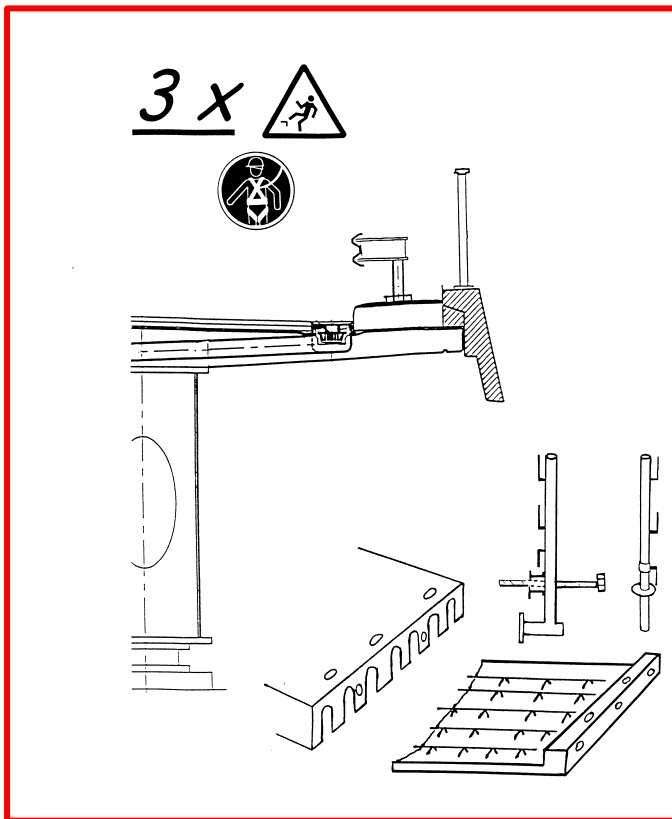
Unfortunately, we didn't have the opinion of the safety and health co-ordinator which would have highlighted these work problems.



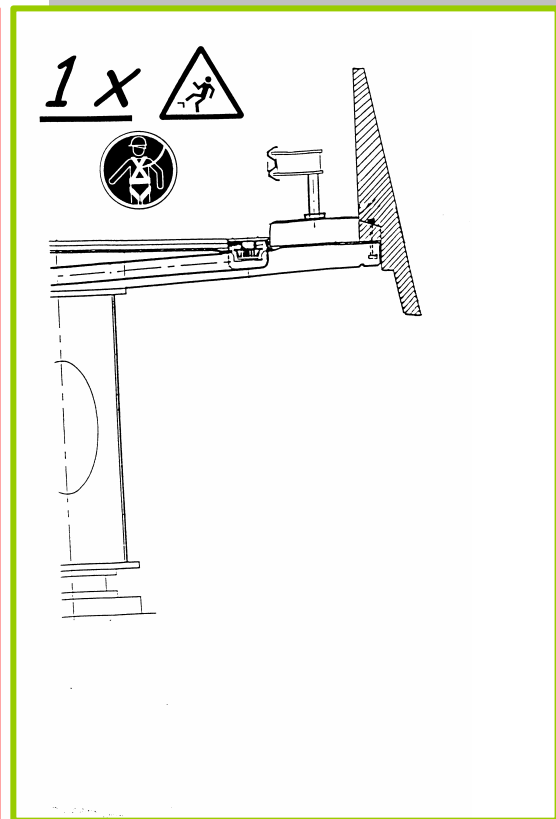
2nd example: Forgetting to install access routes for the roof => danger of falls



3rd example : The safety element becomes an integral part of the structure

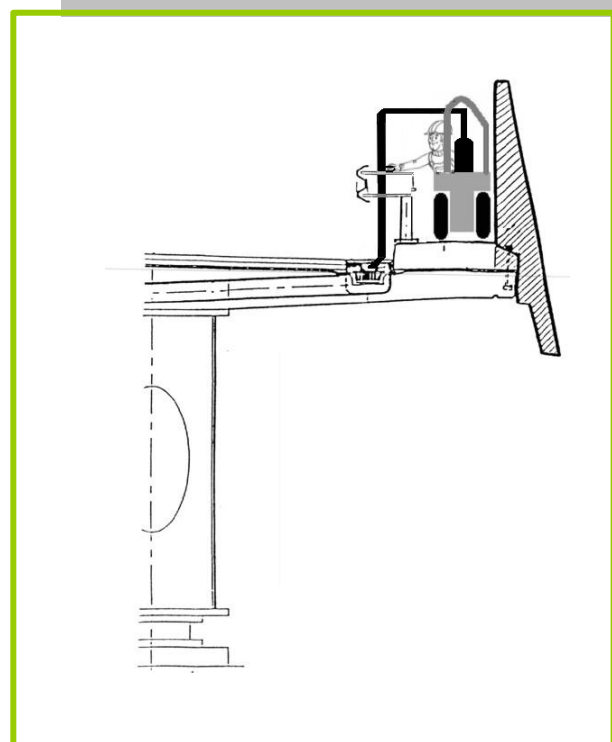


When the definitive metal barrier is only installed at the end of work on the site, the risks of falls during the work is very high.



The barrier is integrated in the concrete structure. It is in place while the actual work is carried out.

Widening the pavement facilitates subsequent work. Road traffic does not need to be diverted.



2. Appropriate equipment

Diagram 1: The cramping systems of the Console are used for both construction and maintenance purposes. They will also be useful during the demolition work..

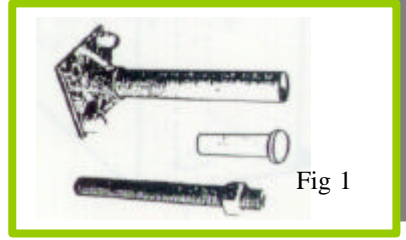
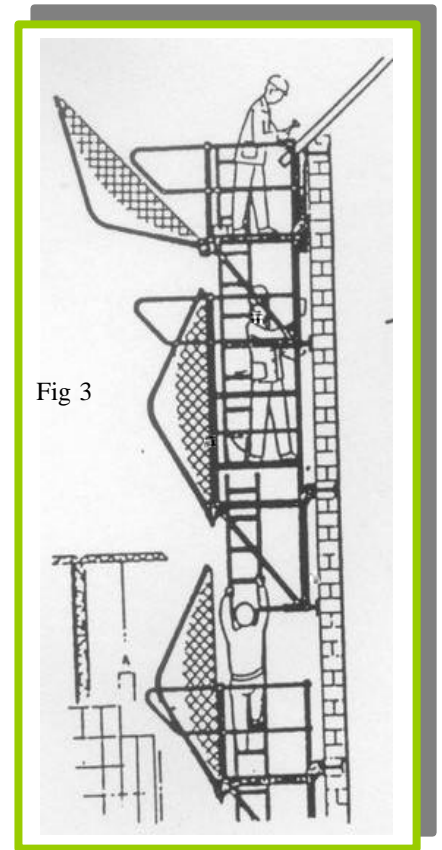
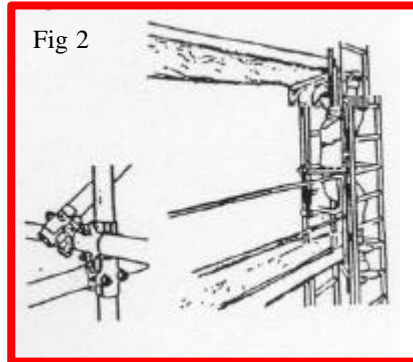


Diagram 2: Tube scaffolding and scaffolding with connecting pipes are disappearing and are being replaced by scaffolding which is more stable through the use of a floor and railings (diagram 3) which improves safety and profitability.



3. Well-designed equipment

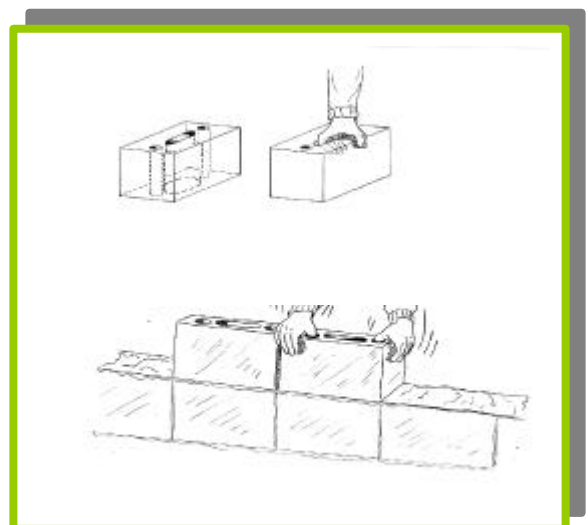
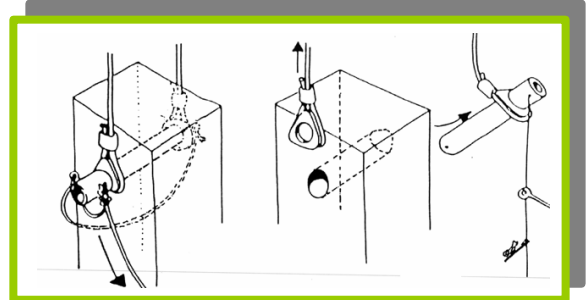
When assembling prefabricated halls, distance dismantling accessories improve working conditions:

- by eliminating the risks of workers falling (fewer ladders which are placed on an uneven surface),
- **greater profitability, comfort and safety.**

An ergonomic study (SEFMEP 1995) on masonry work highlighted that the mason's work load could be reduced by 20% (by integrating in the masonry block a notch for the hand and thumb which makes it easier to grip).

Work productivity increases by 17%.

This places less strain on the worker's spine and the quality of work improves.



B - Prevention during the organisation phase

The Checklist and planning of work



Prevention consists in integrating security in the design, co-ordination and organisation of the work by the different enterprises.

The “checklist” is an interesting tool for organising prevention. It lists the tasks and responsibilities of each of the parties while the work is being carried out. This makes it possible:

- a. **to identify** when the work is being planned:
 - **The risks of work in succession or work being carried out simultaneously** by several enterprises.
- b. **to eliminate** risks as far as possible:
 - **Postponing certain work** (changes to the work schedule of the enterprises).
- c. **to reduce** risks as far as possible:
 - Providing **collective protection or system** eliminating the risks involved in work being carried out simultaneously (example safety nets under structures).
 - Setting up **protective systems or measures common to several enterprises**, by specifying the responsibilities of each party for assembling work, maintenance and dismantling (for example, barriers, gangways, electrical installations, handling means).

C - Prevention in contacts with enterprises

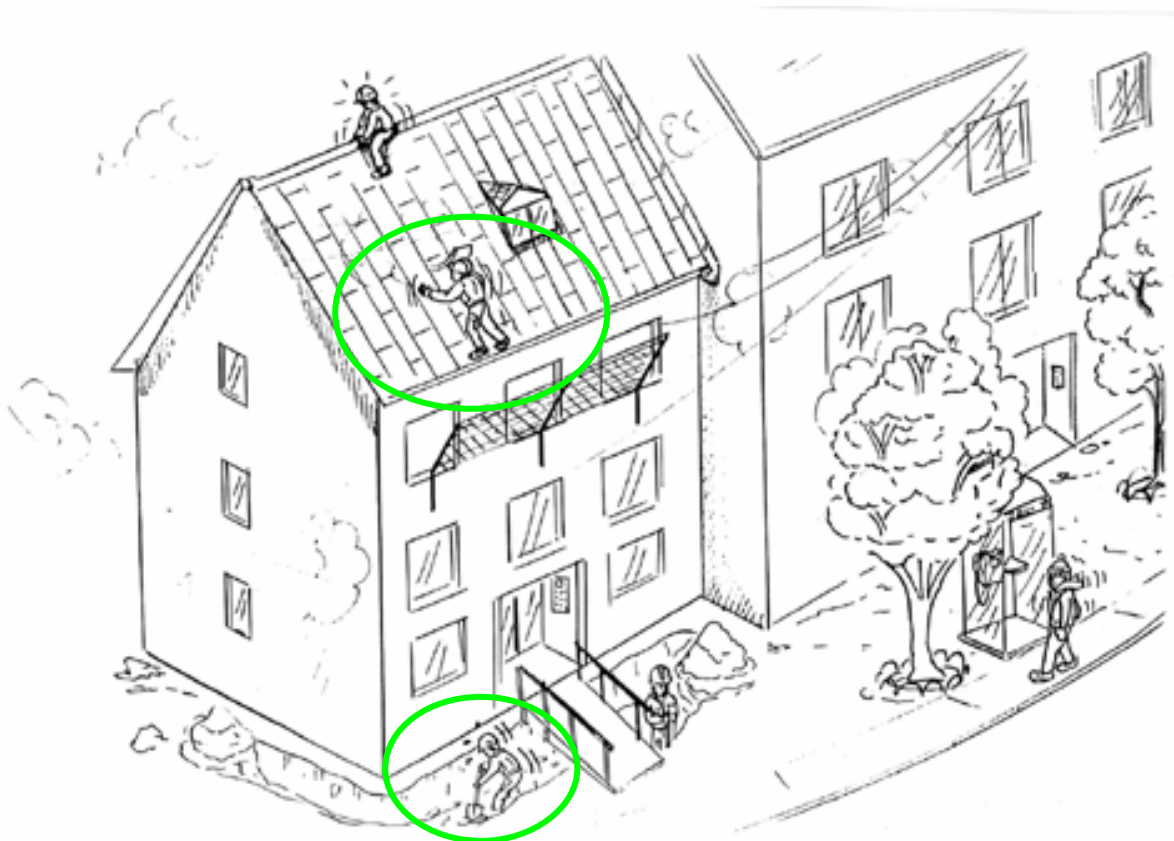
Prevention must be integrated in the contractual documents with the enterprises. The bulk of the contractual requirements in the area of prevention is described in the safety and health co-ordination plan (see SHCP sheet).

D - Prevention during the execution phase

Prevention during this phase consists of examining the dangers involved in the work and ensuring that the work is carried out in the best possible safety conditions.

The safety and health co-ordinator is the first to implement this prevention phase. To that end, he visits the building site as many times as necessary before advising the different parties in an appropriate way so as to ensure the best possible safety conditions.

Prevention during the execution phase allows all the parties to improve fundamentally the safety systems defined and set up in the previous phases. The prevention measures planned or which have already been implemented, are adapted in line with the progress of work.



Think safety during the execution phase



**V. THE MAIN
PREVENTION
MEASURES
TO BE
ADOPTED
ON THE
WORK SITE**

A - A workplace organised to avoid risks and professional illnesses

The employer organises the workplace by informing and consulting the workers concerned, as is stipulated in the European framework directive of 12/6/89 on the well-being of workers.

✍ What the employer must do:

1. He sets up **access routes** for the exits and emergency exits and keep them free at all times.
2. He assures the **technical maintenance** of the workplace, work installations and facilities, through the elimination of deficiencies that could endanger the safety and health of workers. In particular, he will ensure the correct ventilation, temperature, lighting of the premises, the stability of floors, walls and ceilings, the maintenance of doors and gates, windows, moving stairs and pavements, sanitary equipment etc.
3. He ensures that the workplace and safety installations and facilities are cleaned regularly in order to ensure that the hygiene conditions are appropriate.
4. He ensures that the safety systems are **regularly maintained and controlled**

✍ What workers and their representatives must do:

1. They **must acquaint themselves** with all the measures taken and to be taken in the area of health and safety.
2. **They participate** in the setting up of the organisation of the workplace.
3. They **consult** the employer to create a dynamic organisation of the workplace.

✍ What co-ordinator must do :

1. **consults** the workers about the safety and health conditions in the workplace.
2. **draws the employer's attention** to possible improvements to be made.

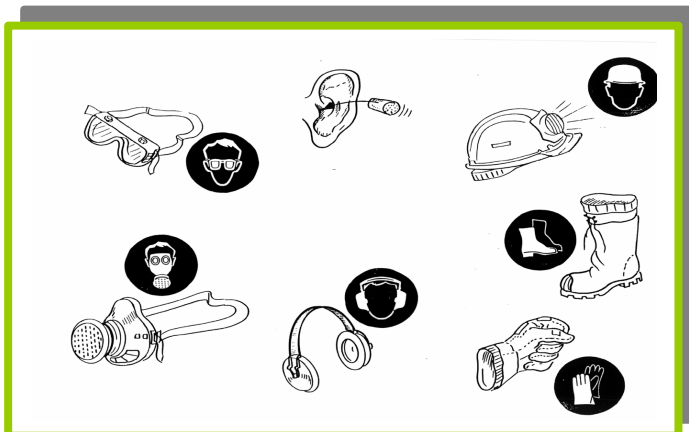
A – Appropriate protection to minimise risks and professional illnesses

In order to protect workers against these risks, the employer provides them with personal and/or collective means of protection:

1. **Priority** is given to collective means of protection



2. **Personal protection equipment adapted to the job**



3. **Toxic, dangerous products indicated and under control**



The work site must be equipped with first aid material



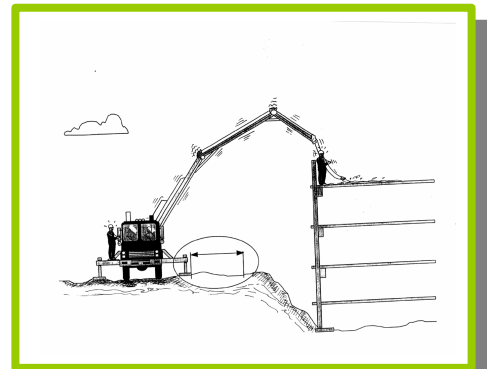
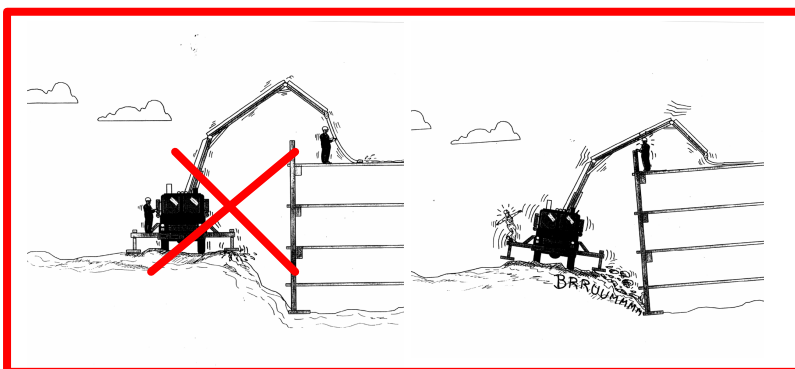
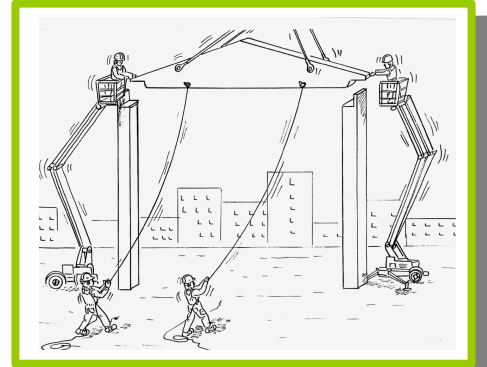
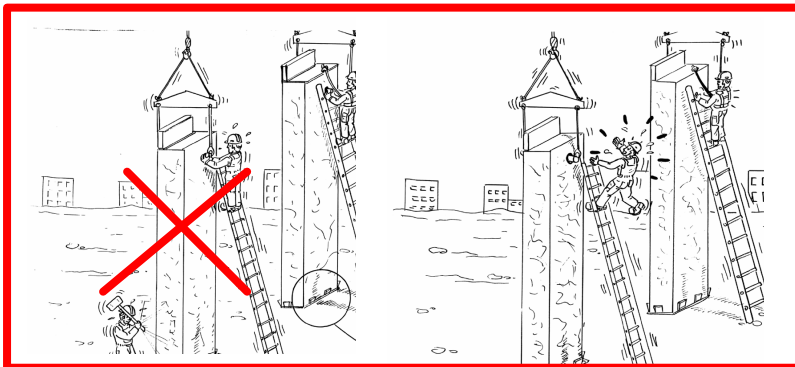
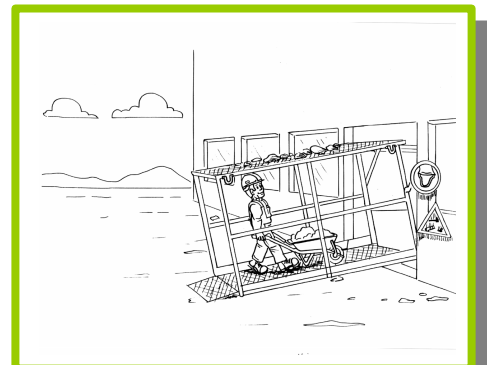
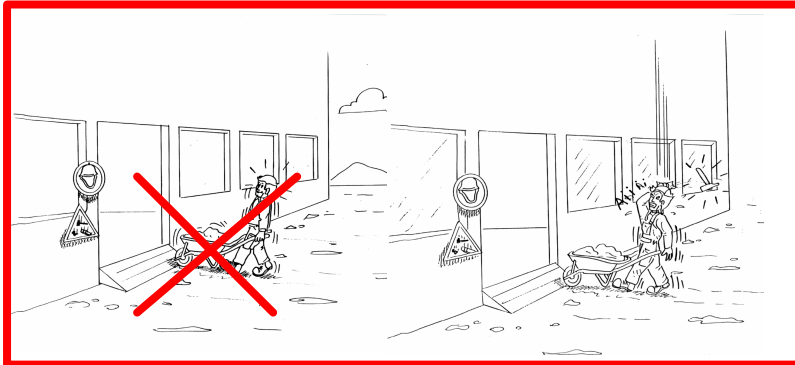
B - Preventing accidents during work on the structure of the building



Lack of prevention

Accident

A solution



As soon as the workers feels that there is a danger and sees that the work involves risks, he reacts and takes appropriate measures and informs his employer about them immediately.

“A simple gesture can save a life”



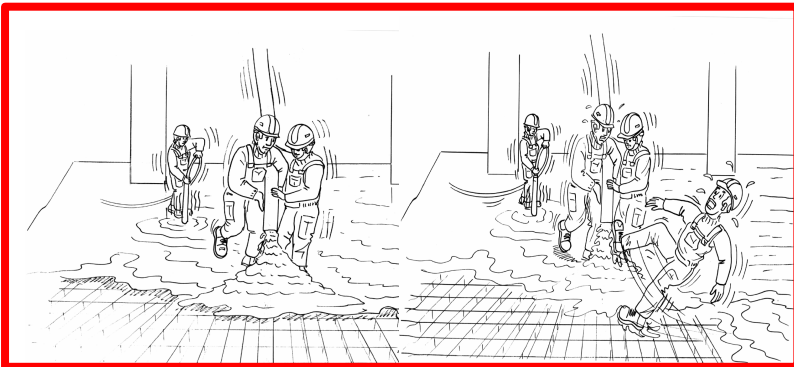
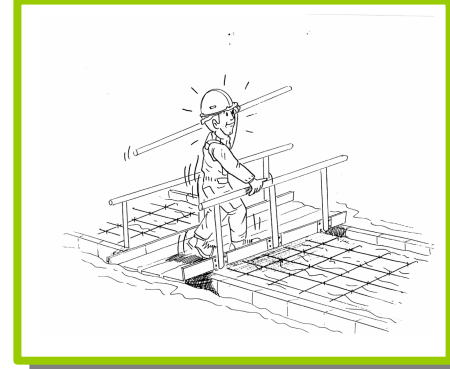
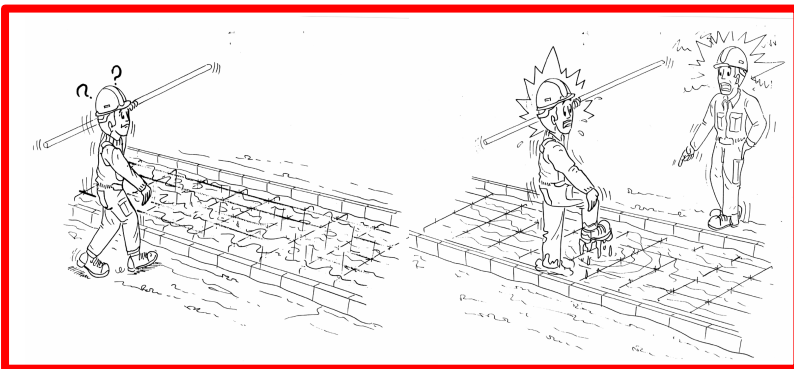
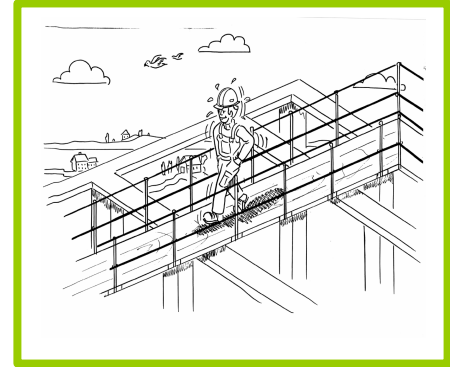
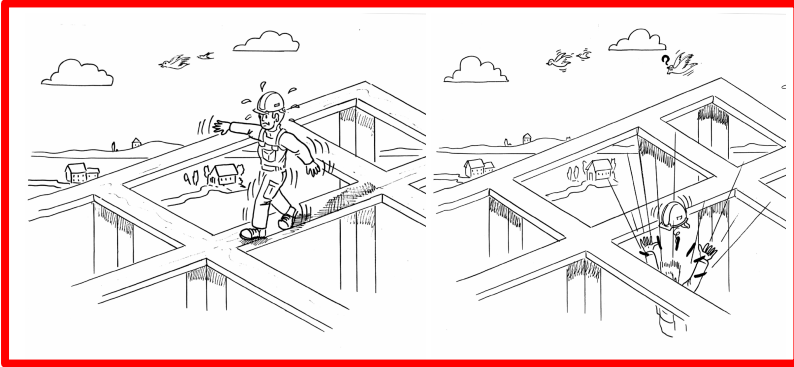
Lack of prevention



Accident



A solution



- ✍ Remove all material, boxing wood, tools and frames from routes and passages.
- ✍ Use a gangway to balance the weight of work if it is to be carried out in fragil places.
- ✍ Never use boards which are used as barriers to complete for example a shuttering.
- ✍ Etc.



C - Put in place appropriate protection against falls from a height



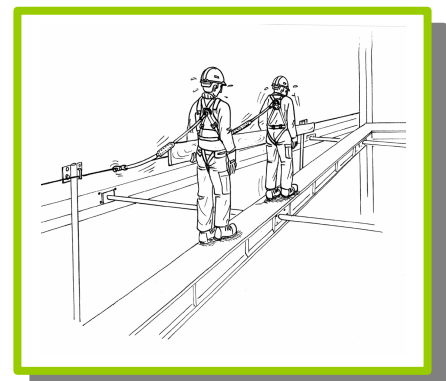
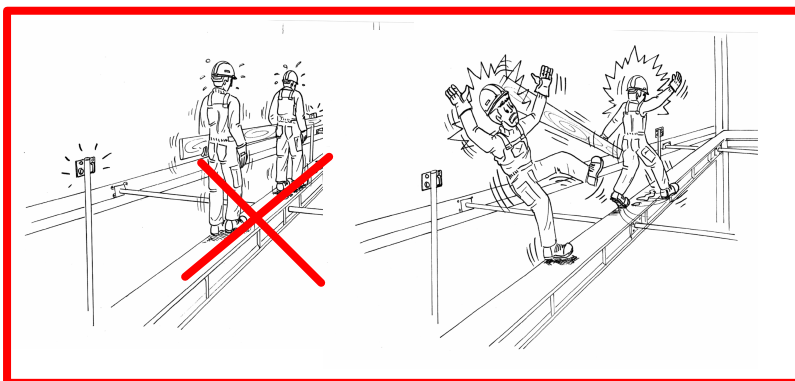
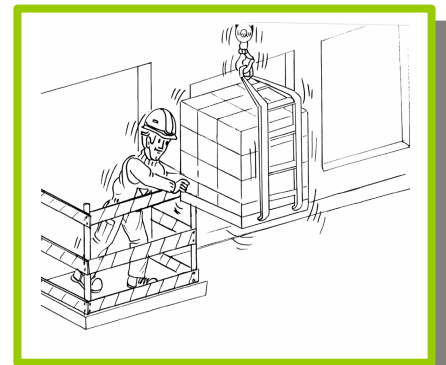
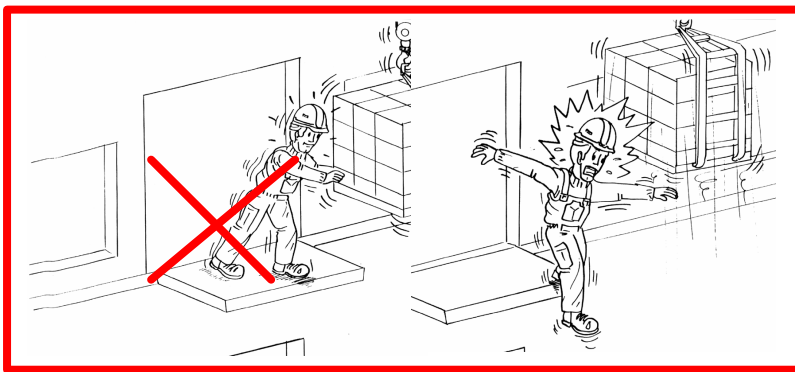
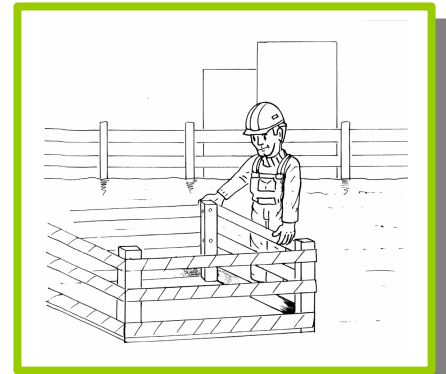
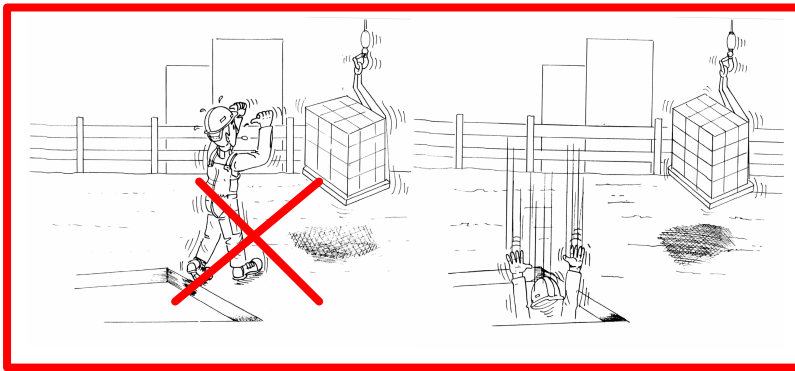
Lack of prevention



Accident



A possible solution



As soon as the worker feels that there is a danger and sees that the work involves risks, he reacts and take appropriate measures and informs his employer about them immediately.

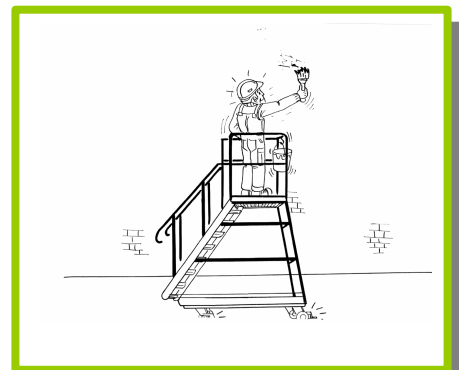
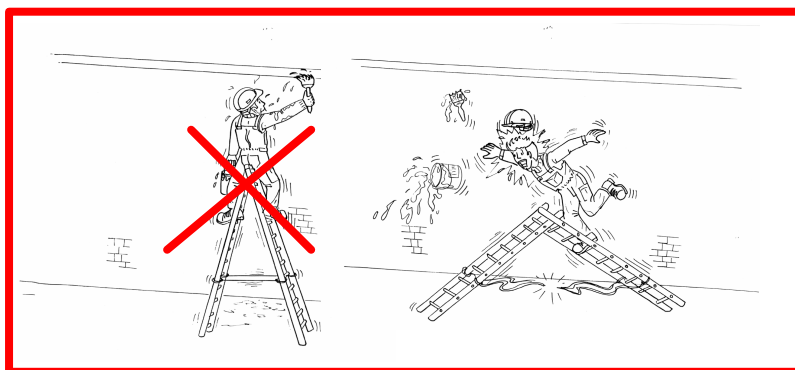
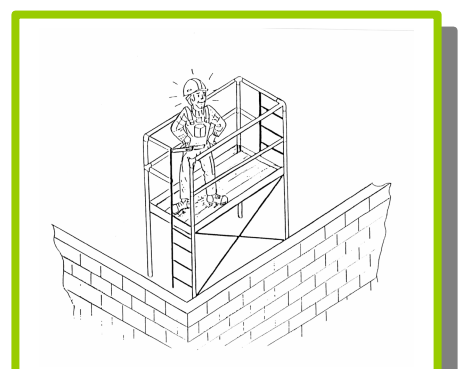
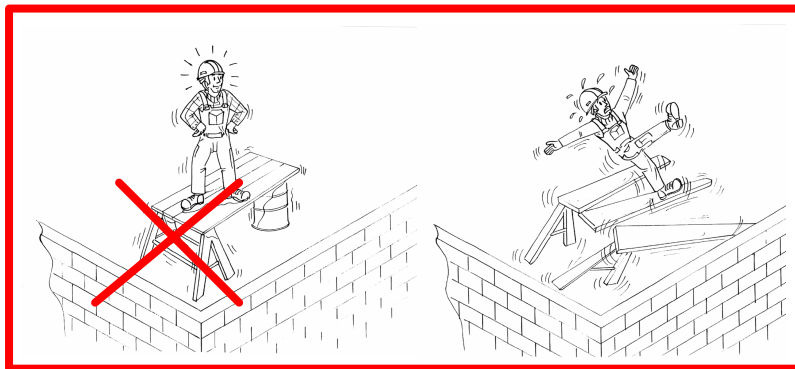
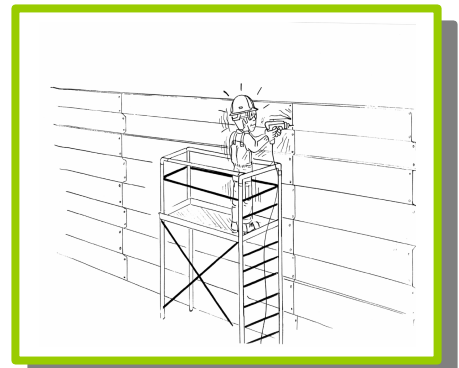
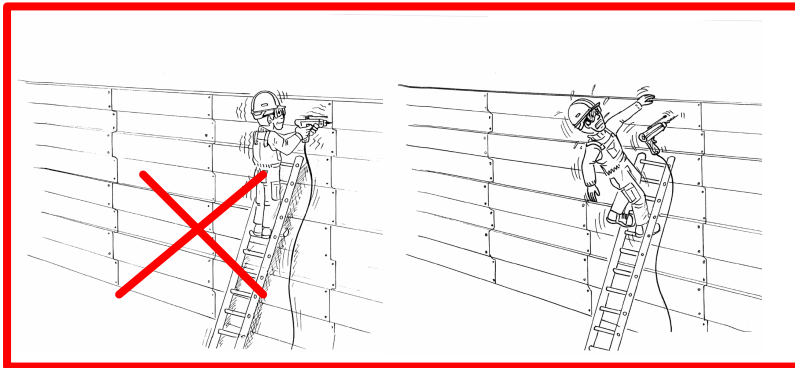
“ A simple gesture can save a life “



Lack of prevention

Accident

A possible solution



Numerous tools have been developed to avoid falls from altitude :

- ✍ Barriers,
- ✍ Scaffolding, supervised by a competent person,
- ✍ Lines of life...

But it is above all the **training of workers** which helps to improve safety.



Priority to collective protection !!!



D - Protecting yourself against landslides



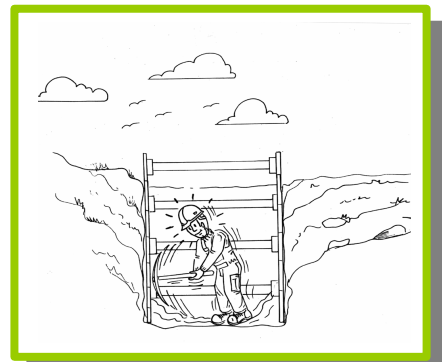
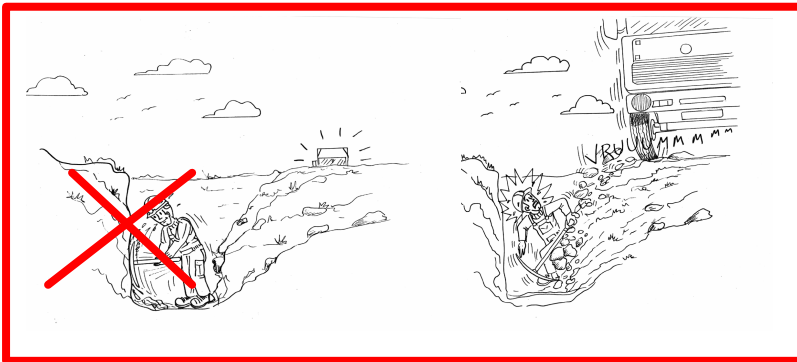
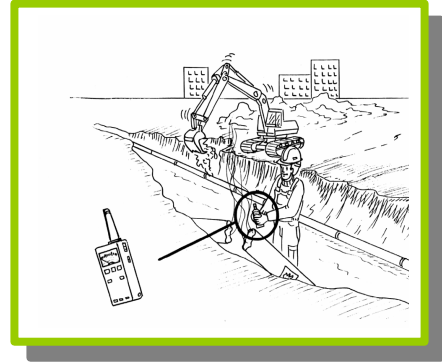
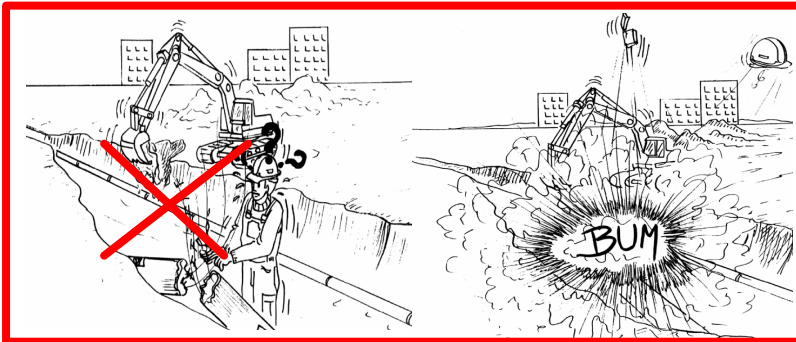
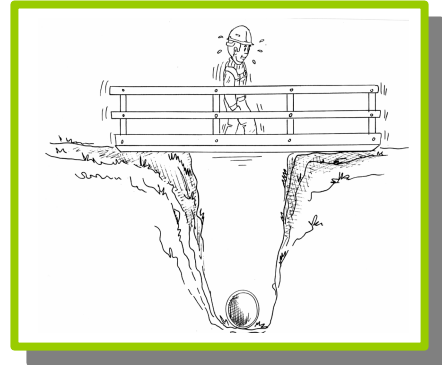
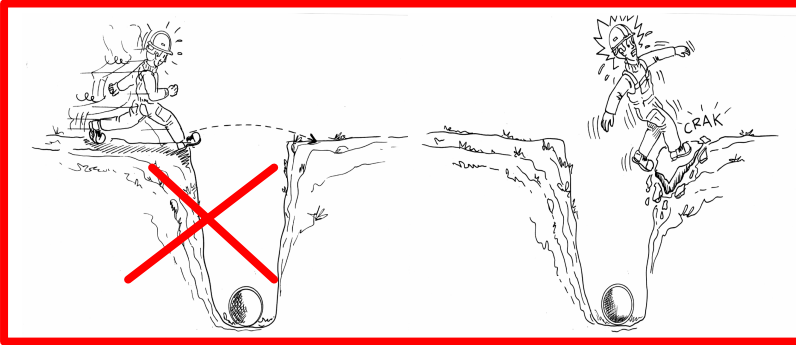
Lack of prevention



Accident



A possible solution



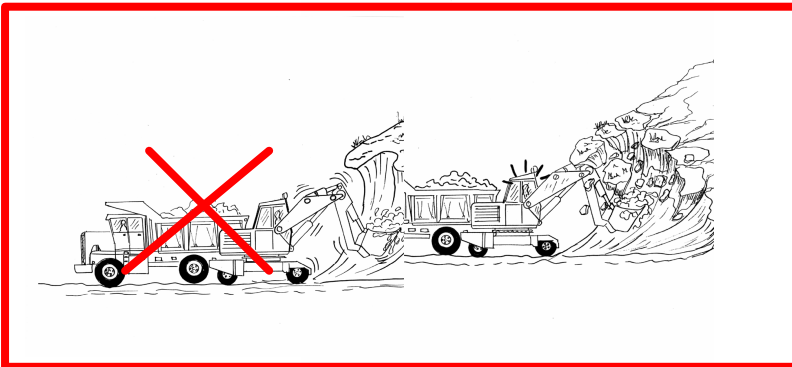
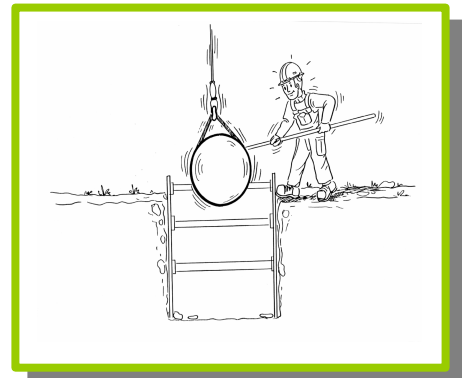
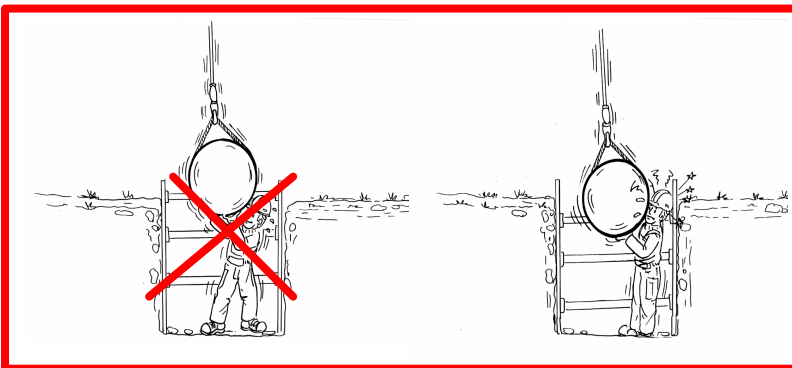
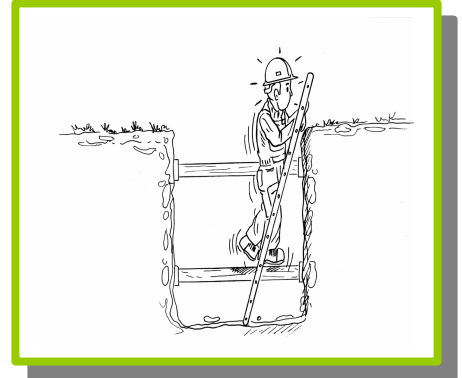
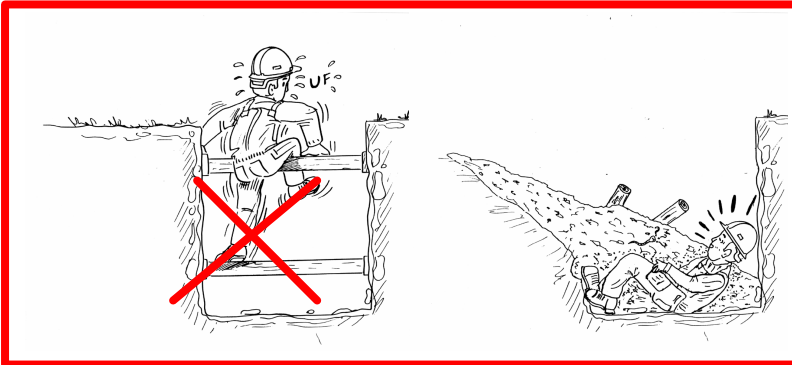
- ⚡ During excavation work, 90 % of accidents are caused by landslides. It is imperative to ensure protection against this risk, either by creating embankments or reinforcing the sides of the area being excavated.
- ⚡ The driver must remain vigilant at all times, particularly with regard to the speed of his vehicle. Only people who have received appropriate training should be allowed to drive excavating equipment.



Lack of prevention

Accident

A possible solution



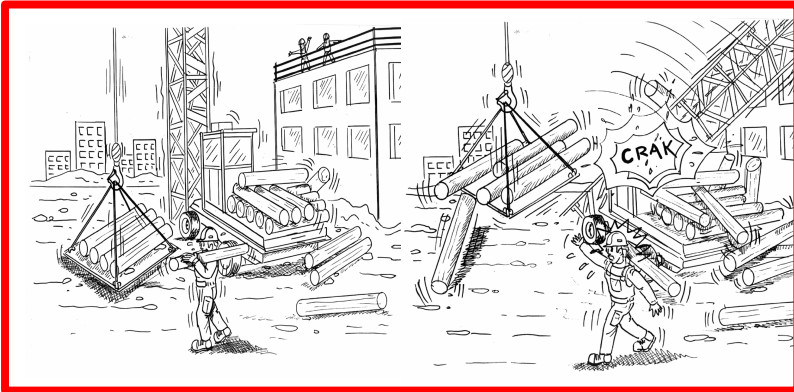
- ✍ Regulations stipulate that the work area must be reinforced as soon as digging reaches a certain depth.
- ✍ National regulations also provide for the evacuation of the earth and the organisation of means of clearing the area.
- ✍ Every driver must have received the necessary training and carry his driving licence with him.



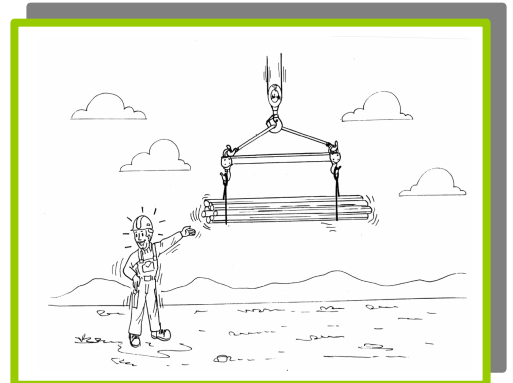
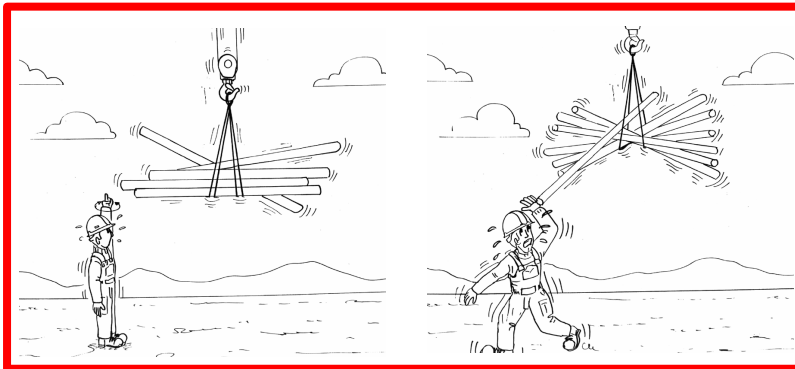
E - Preventing accidents during mechanised handling operations

The handling of prefabricated elements or materials is often carried out in **precarious conditions**. As a result workers are exposed to the following risks:

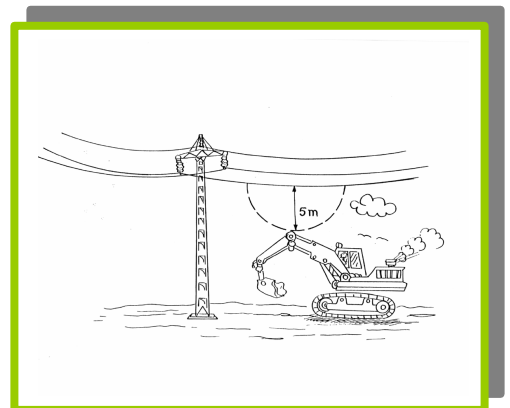
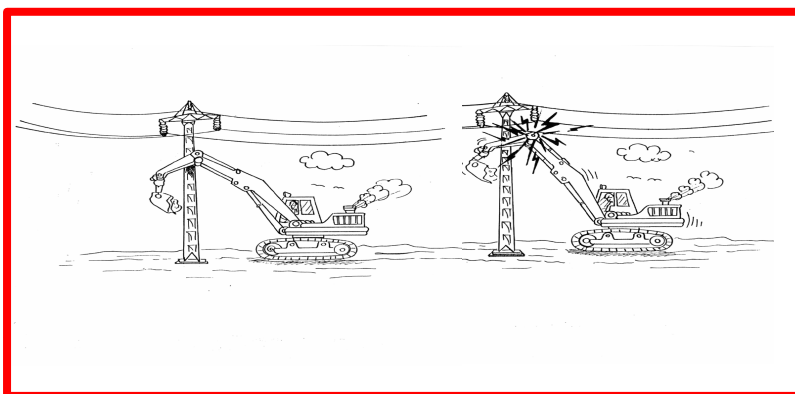
- **The lifting machine collapses or becomes unsteady**



- **The load is unsteady**



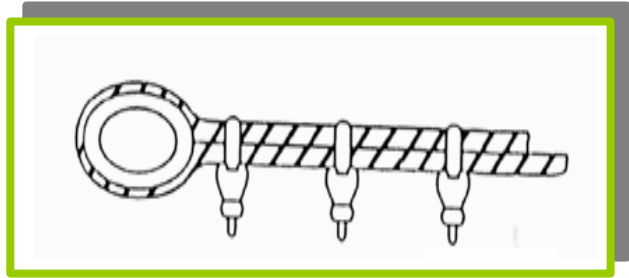
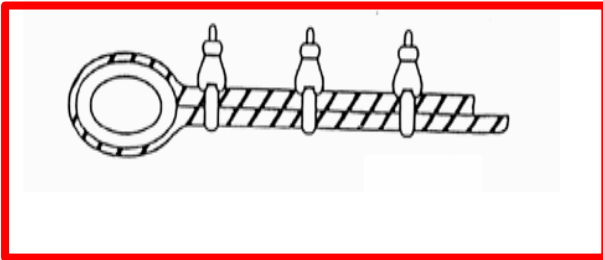
- **Electrocution of the driver of the machine (safety distance = 5 m.)**



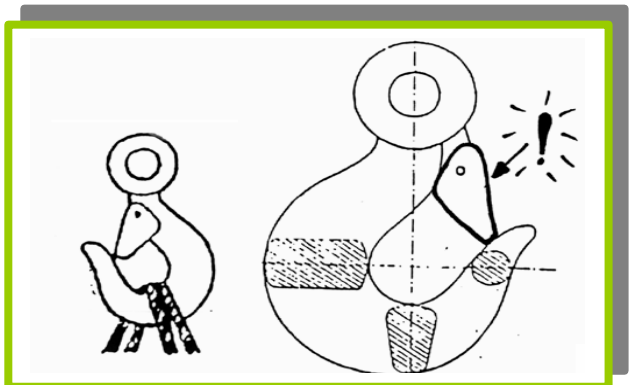
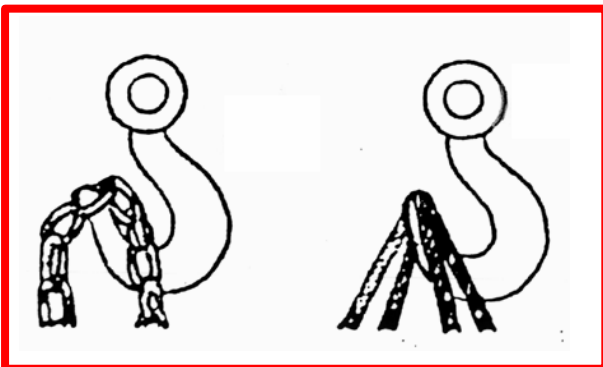
The enterprise must ensure the safety of handling operations

- ✘ through consulting and keeping the original directions for the use of the different machines,
- ✘ through training workers in the use of these machines,
- ✘ through possible preliminary studies on the organisation of handling work.

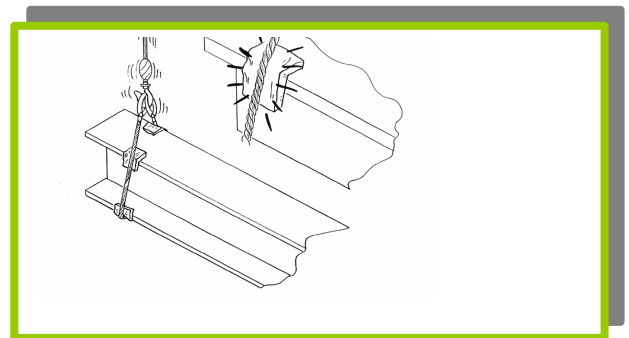
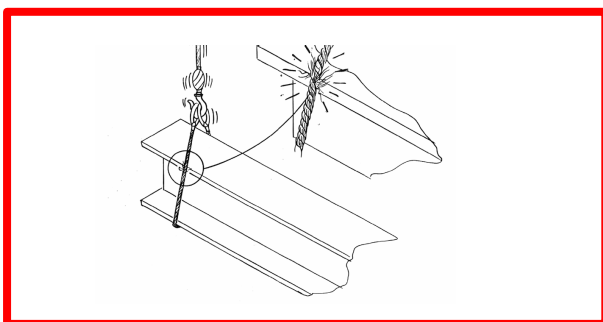
The packers must check **their equipment** before the lifting operations. Slings, hooks and wedges, used to fasten the load to the lifting machine, must be in a good condition in order to ensure the safety of mechanised handling operations.



- ✘ A sling in good working condition must be attached to the main wire and reinforced with a metal protection at the point where its is attached



- ✘ A hook must have a safety clasp and the packer must ensure that the load is correctly attached.



- ✘ Wedges to protect the sling must be correctly positioned by the packer whenever the load is likely to be sharp-edged.