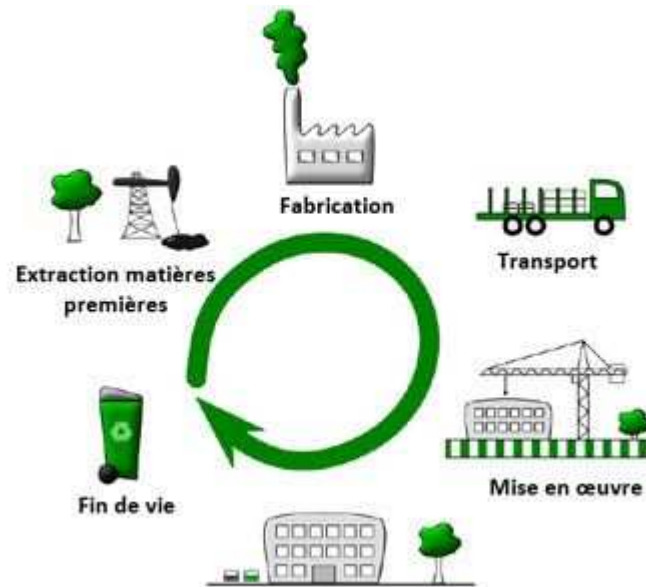


# New approach to risk prevention throughout the life cycle of the construction



**Bruno BISSON**

## A new approach to prevention in the construction industry?

- The life cycles of the construction phases:
  - Construction
  - Usage
  - Renovation
  - Demolition



The designer must analyze the entire life cycle of the construction joined by concerns of sustainable development studying construction materials and their life cycles



## How can we come up with a new approach to risk prevention throughout the life cycle of the construction?



- The importance of design for prevention of occupational risks
- Links between sustainable development and prevention of occupational risks
- Risk assessment during the life cycle of construction



## The importance of design for prevention of occupational risks

The main objectives of a construction project:

- to satisfy customer needs;
- to respect the schedule and budget;
- to minimize the impact on the environment;
- to ensure construction quality, safety and health.

Today's leading construction companies see prevention as an investment rather than as a cost.

Costs of accidents:  
twice the cost of measures



Measures consist of actions relating principally to the design, planning and execution of work.



## The designer's responsibility of prevention

- Over 60% of fatal accidents could have been avoided by taking an action before opening the construction site.
- Article 9 of the 167th ILO Convention:  
The designer must consider safety and health protection for construction workers.
- The decisions taken during the initial cycles are the most strategic.



## Links between sustainable development and prevention of occupational risks

### Principles of sustainable development:

- Continuous improvement
- Equity
- Think global, act local
- Holistic approach
- Long-term vision
- Precaution and Risk Management
- Moral responsibility
- Transparency

The information must be accessible and traceable



## Links between sustainable development and prevention of occupational risks

Direct applications of sustainable  
development in the prevention:

- Choice of building materials
- Reduced impact on the environment  
throughout its life cycle
- Beneficial impact on the health of  
workers during construction



**Risk assessment during the life cycle of construction must be carried out through the entire life cycle of construction: construction, operation, renovation and demolition**

- Multiple actor on collaborative processes
- Designers must study how the structure can be safely built, used, maintained, renovated and finally demolished.

## **The development of public-private partnerships (PPP)**

- A company with the entire mission to finance, partly or fully design, build, and maintain and operate works or public facilities and services
- a view of overall cost, a performance guarantee





## A secure bridge on the façade of an office building

His bridge serves as a work platform for maintenance work such as window cleaning or replacement is being done.



## Prefabricated stairs

set up as construction advances facilitate safe access to workers.



## A permanent peripheral parapet

of a one meter high around a terrace roof protects all workers who are on the roof during construction and during future building maintenance.



## Wooden flooring

with finishing done at the factory to prevent emissions of wood dust and noxious varnish vapours.



## **Risk management should be part of the design phase in accordance with the concepts of sustainable development**

- 1) Determine who should be part of the design team (or should be consulted in the quality of a competent person);
- 2) Determine customer needs and foreseeable use of the structure;
- 3) Avoid risks throughout the life of the structure and particularly in its maintenance;
- 4) Reduce risk to an acceptable level for the entire life cycle of the structure;
- 5) Apply general prevention principles (as per European directives).

## **New Methods and Tools: Collaborative work and project management**



**Thank you**  
**for your attention**

**[www.issa.int/prevention](http://www.issa.int/prevention)**

