



ECHO
investment



*Everything
begins
with you*



EHS

Best Practices

Kielce, 2018

The construction process, despite the best plans and technologies, is often related to situations which surprise us and which require our reaction to enable works to run smoothly, and most of all safely.

Such situations unleash loads of creativity in our co-workers, resulting often in surprising and unconventional ideas and solutions.

We hereby provide you with a set of best practice rules we have observed on projects of Echo Investment. We believe they will be helpful to you in your everyday work as well as inspiring you how to do things even better.

Steve Iddon
EHS Director



Introduction

- **Project Organization**
 - Documentation
 - Site office
 - Traffic organisation (pedestrian and vehicle)
 - Storage
 - Cleaning
 - Fencing
 - CCTV monitoring
 - Access control
- **Logistics**
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 - Horizontal transportation
 - Organization of deliveries
 - Unloading of deliveries
 - Work under traffic
- **Construction works**
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 - Steel structures
 - Masonry works
 - Service works
 - Finishing works / Fit-out
 - Roofing works
 - Glazing / facade works
 - Demolition
 - Road works
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 - Bulldozers
 - Excavators
 - Pilling equipment
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 - Power supply distribution
 - Electrical equipment control
 - Electrical safety
- **Work at height**
 - Equipment for working at a height
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- **Competences**
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 - Competence training
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- **Natural environment**
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 - Lighting pollution
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- **Crisis situations**
 - Fire protection
 - First aid
 - Evacuation

Project organization

Construction sites have to be proper and tight fenced. Properly organized access by providing the security guard post equipped with turnstiles integrated with the access card reader improves the control and minimizes the risk of unauthorized access from the public zone. By providing personal protective equipment and safety induction training for guests it is possible to ensure safety for people visiting the construction site



Project organization

Personal protective equipment (safety helmets, hi-vis vests and safety footwear) is available at the site gatehouse for any guests entering to the construction site.

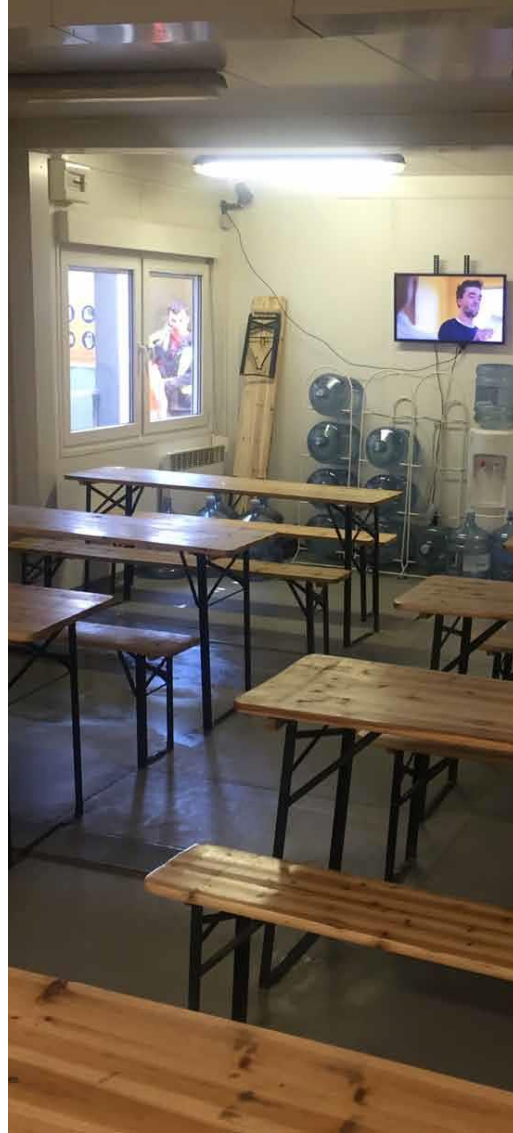
Site access with turnstiles connected with electronic card readers.



Project organization

Everyone who works on any site must have access to adequate toilets, washing facilities, a place for preparing and consuming refreshments and somewhere for storing and drying clothing and personal protective equipment. Good quality welfare facilities will result in greater productivity and a happier workforce.

The toilets and washrooms have to be equipped with soap dispensers and paper towels, toilet paper.



Project organization

One of the major risk at construction sites is hitting employees by moving vehicles. Pedestrians or vehicles must be able to use a traffic route without causing danger to health or safety of people working near it. Roadways and footpaths should be separated whenever possible. You need to consider protection for people who work near vehicle routes.





Project organization

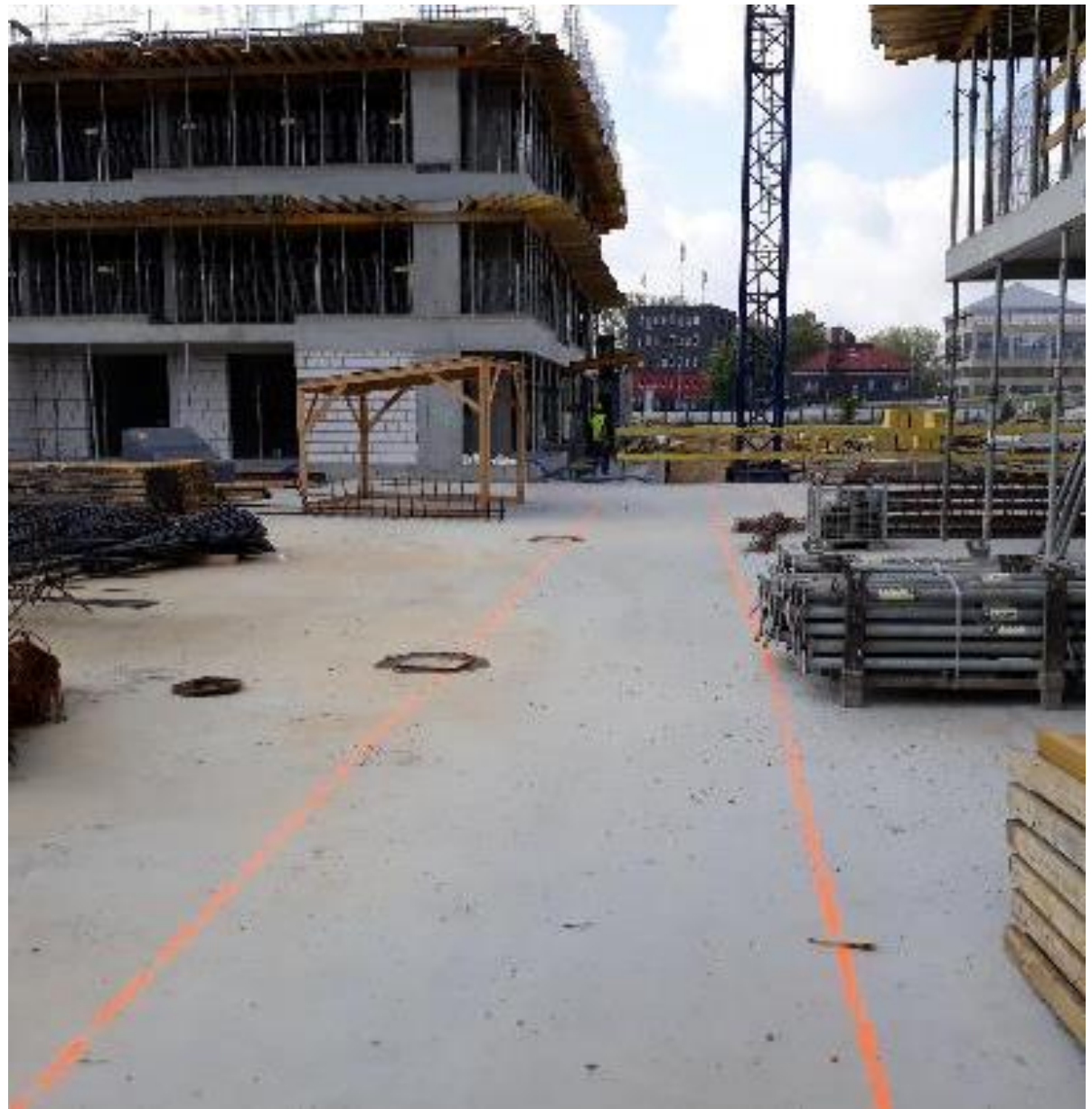
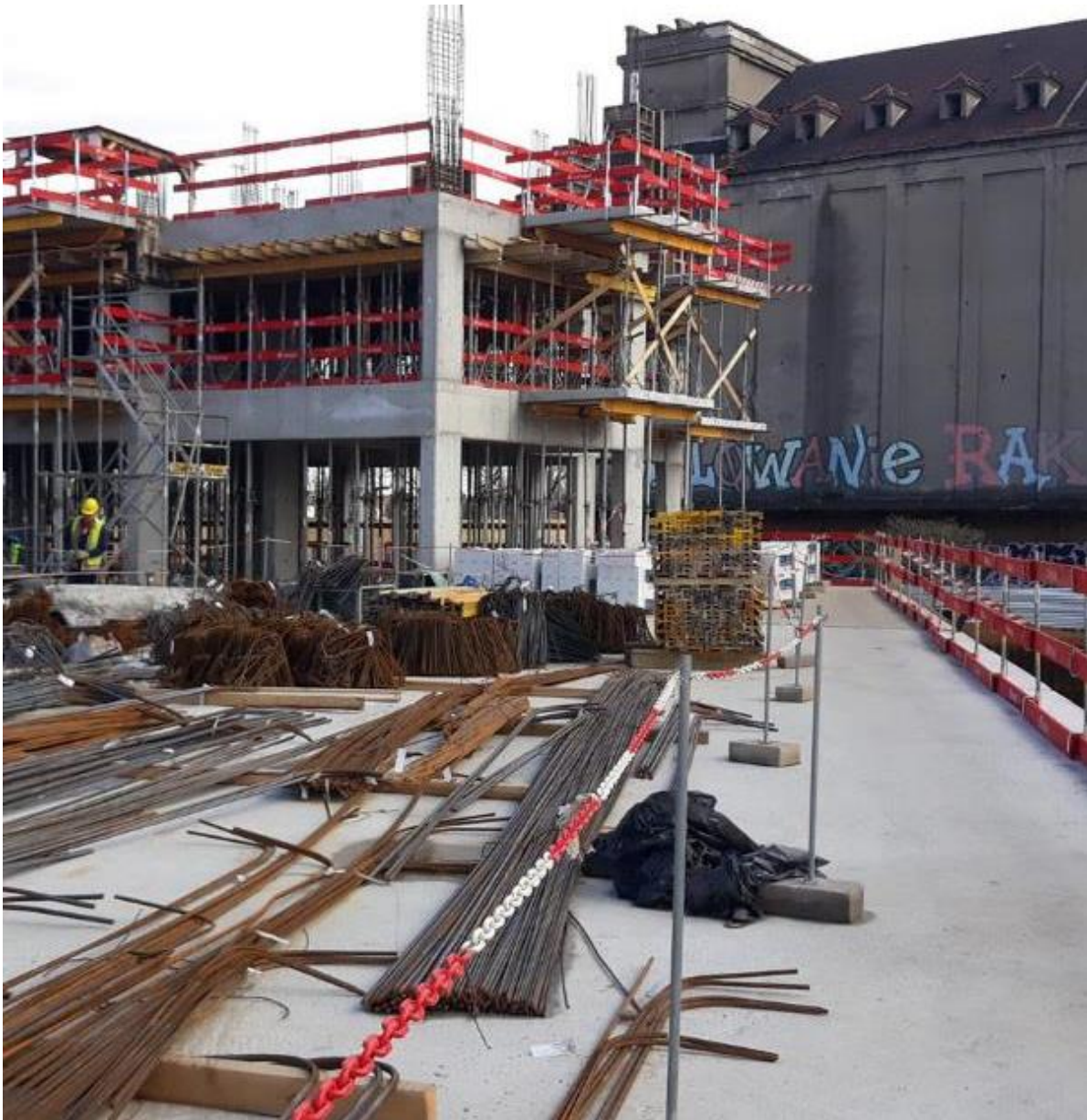
Make sure if any platforms and slopes are safe for pedestrian traffic. In particular if there is slipping risk – provide sufficient means to avoid such hazard.



Project organization

The efficient handling and storing of materials are vital to any construction project. In addition to raw materials, these operations provide a continuous flow of materials and assemblies through the workplace and ensure that materials are available when needed. Safe material storage will enhance project productivity. Storage areas should be specifically designated, be clearly marked, and be in the charge of a responsible employee. Stored materials cannot block pedestrian aisles.





Project organization

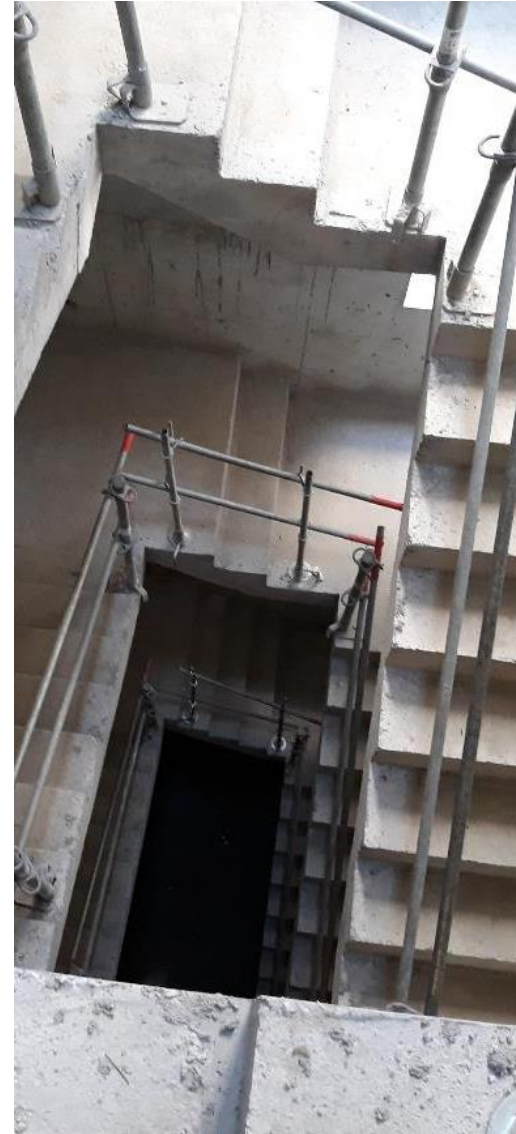
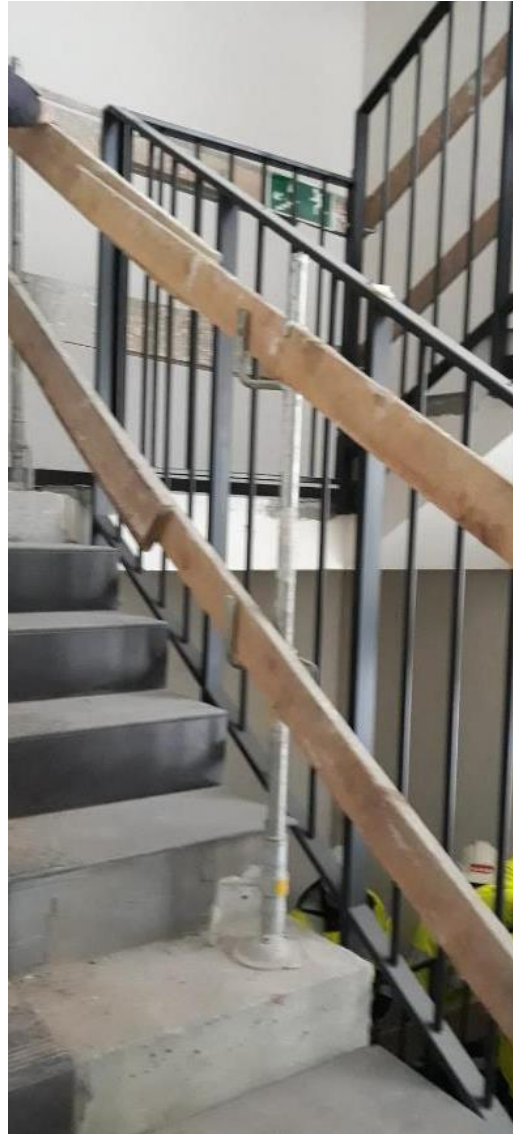
Consider that safe means of access must be provided to places of work and this includes access for construction workers to carry out works in what may have been identified as hazardous areas of existing structures. At least two routes must be provided at the same time to ensure access and egress (in case of emergency situation) from all workstations on site. In ECHO system solutions are preferred – temporary stairs.





Project organization

In many cases on construction sites we do use final staircases as access – egress between different levels of a building. In such situation we have to provide proper system guardrails in the staircase till the moment when we have final staircase guardrails installed.



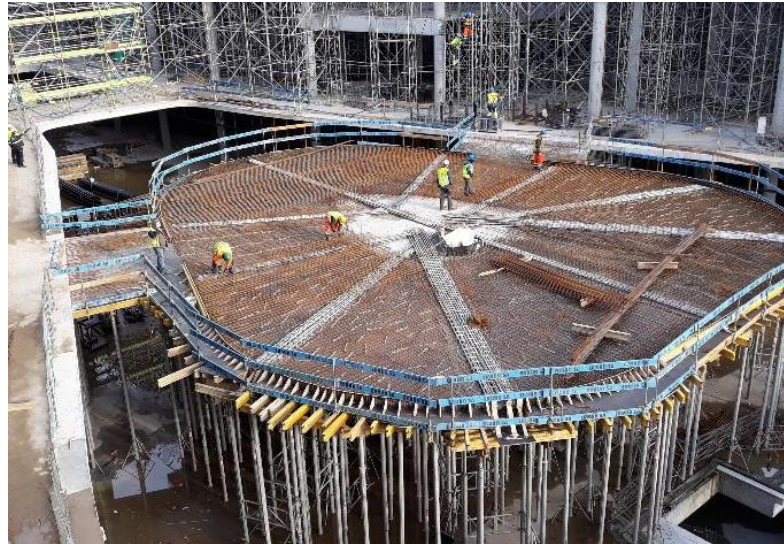
Logistics

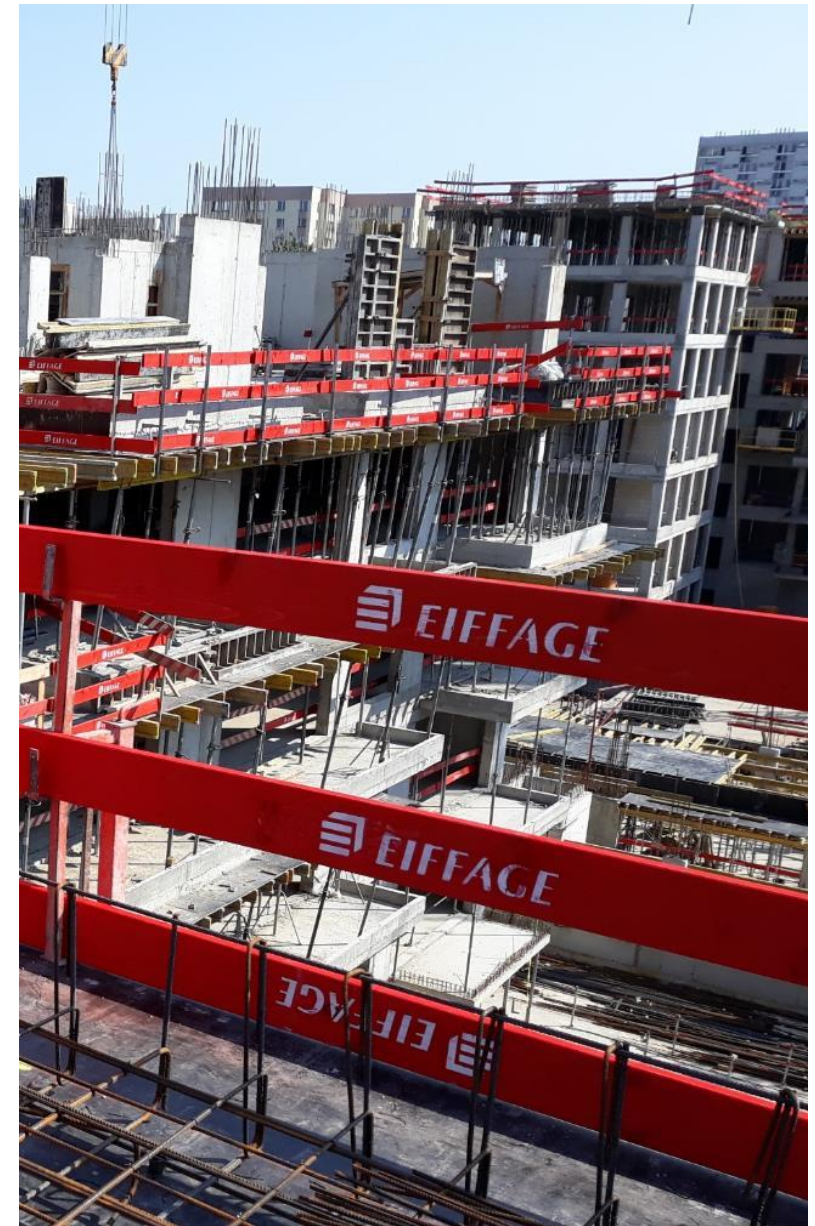
Effective and safe logistics planning is imperative for any construction project as it can provide massive benefits in efficiency and productivity that significantly reduce the overall cost of the project. This simple solutions might be inspirational for you when planning your project. These examples include appropriate securing of lifted loads, system loading platforms and appropriate communication / warning equipment for a slingman-signaller, crane operator and other employees on site.

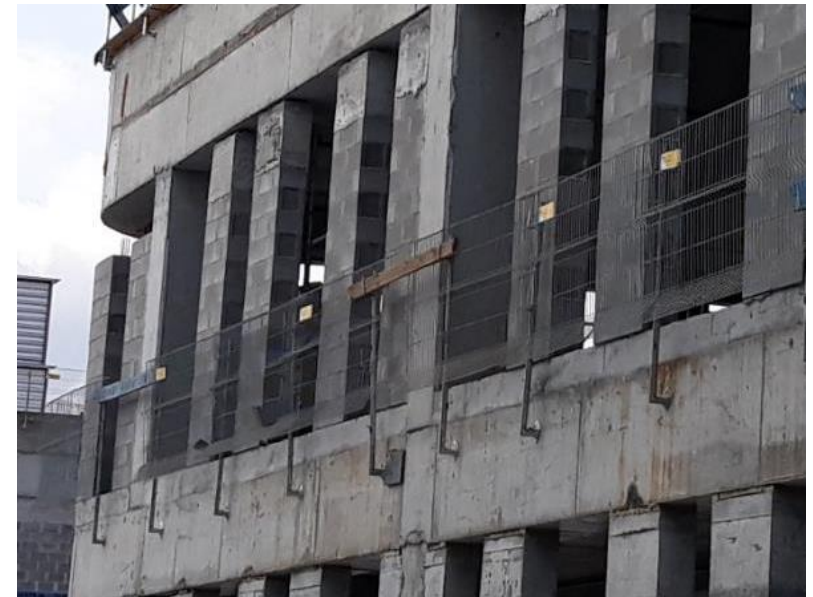
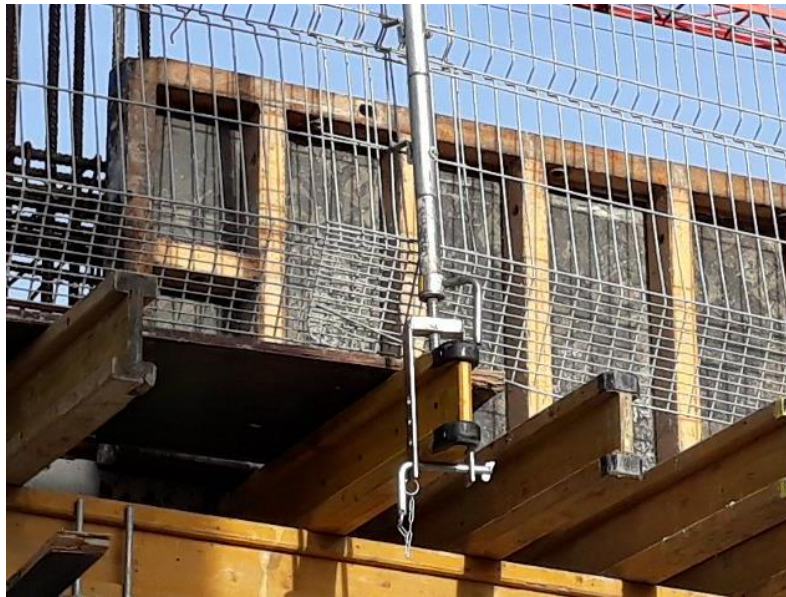


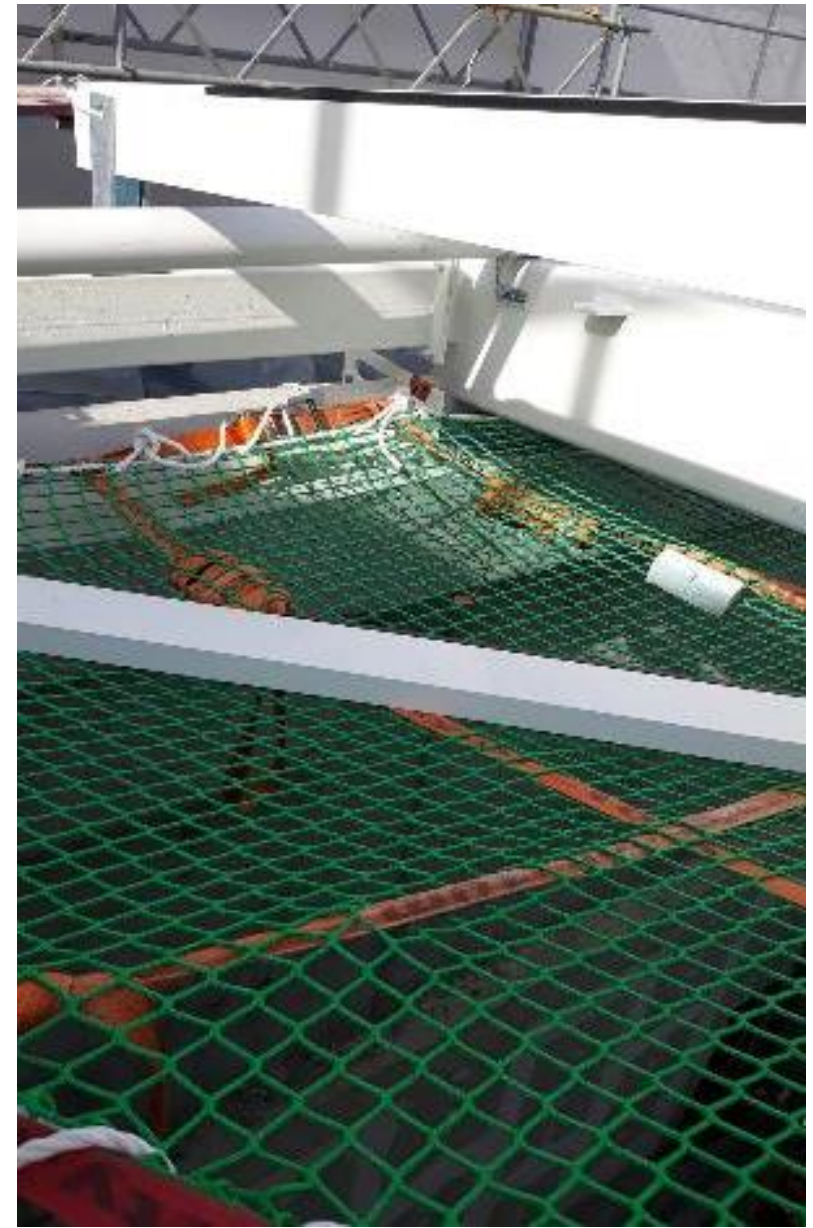
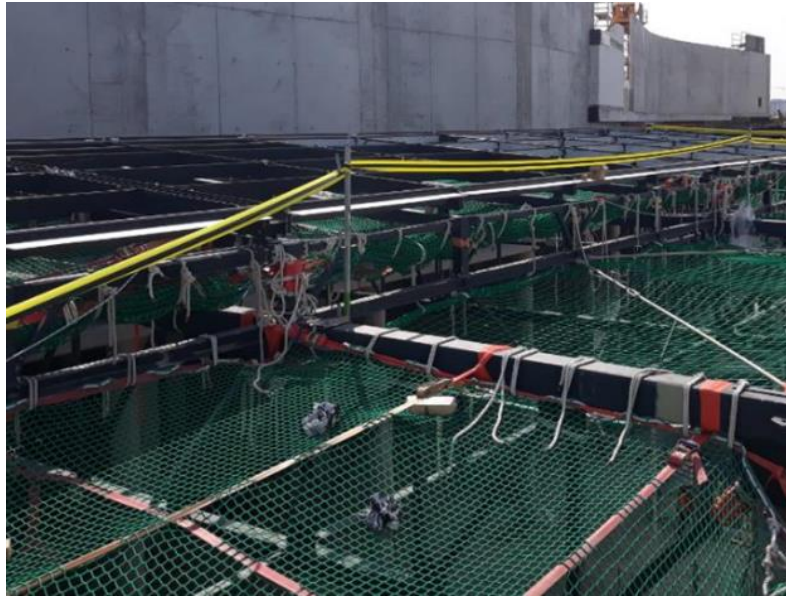
Construction works

Leading edge is a huge challenge and major risk for the project. Risks related to this topic are various: falling persons, falling objects. These simple solutions might be helpful to provide a safer environment on your site. In ECHO system solutions are preferred for temporary edge protection at height.









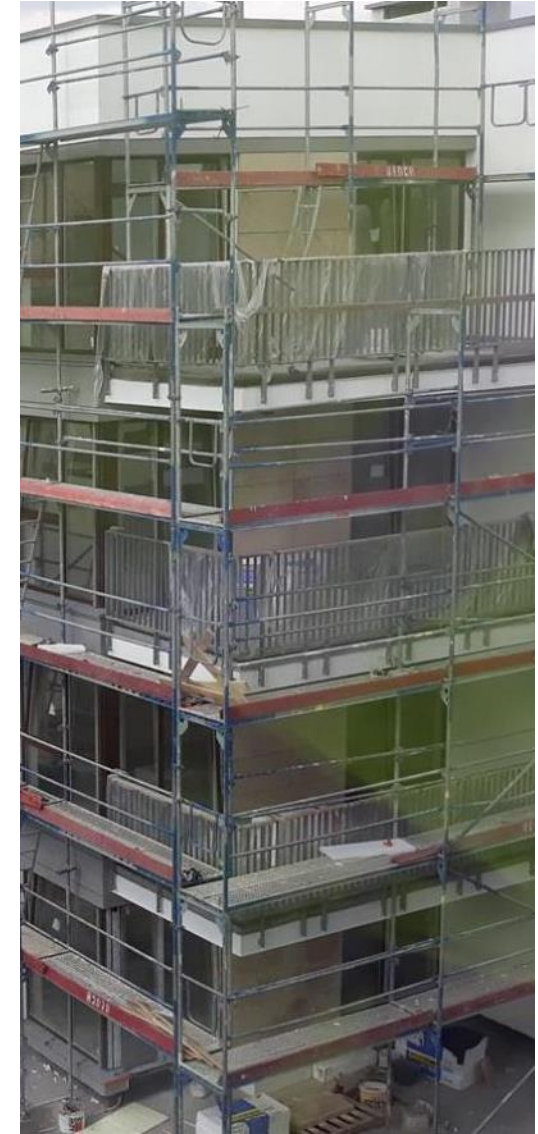
Construction works

Proper fencing and barriers provided at the edge of excavations and lowering levels.



Construction works

When planning works at height, proper sequence of works regarding hierarchy of control should be taken into account. Our first choice should always be to use collective protection equipment such as facade scaffolding when working on balconies, roofs etc.



Construction works

Wygradzanie stref niebezpiecznych jest jednym z podstawowych obowiązków, podczas planowania i wykonywania prac na wysokości, w szczególności, gdy występuje ryzyko spadających przedmiotów.



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Construction works

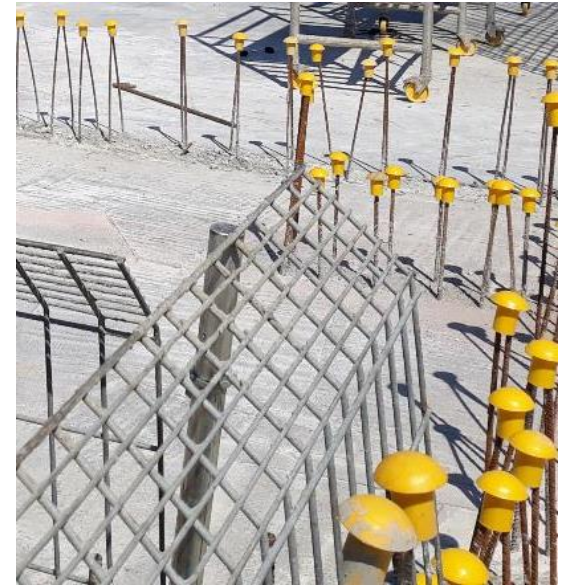
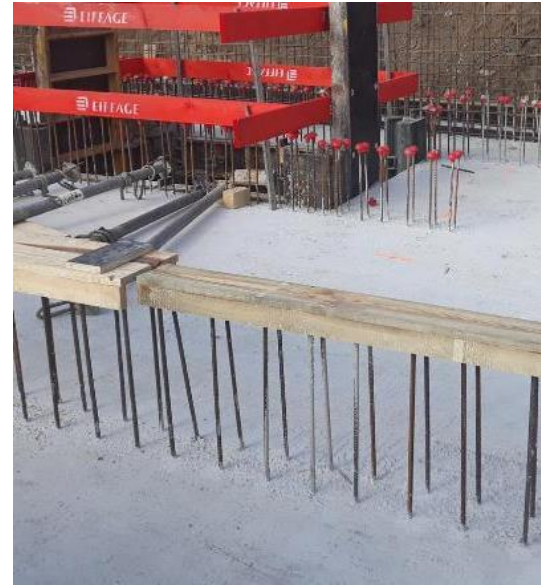
Shaft protection eliminates a falling from height risk and gives a better control over these hazardous areas.





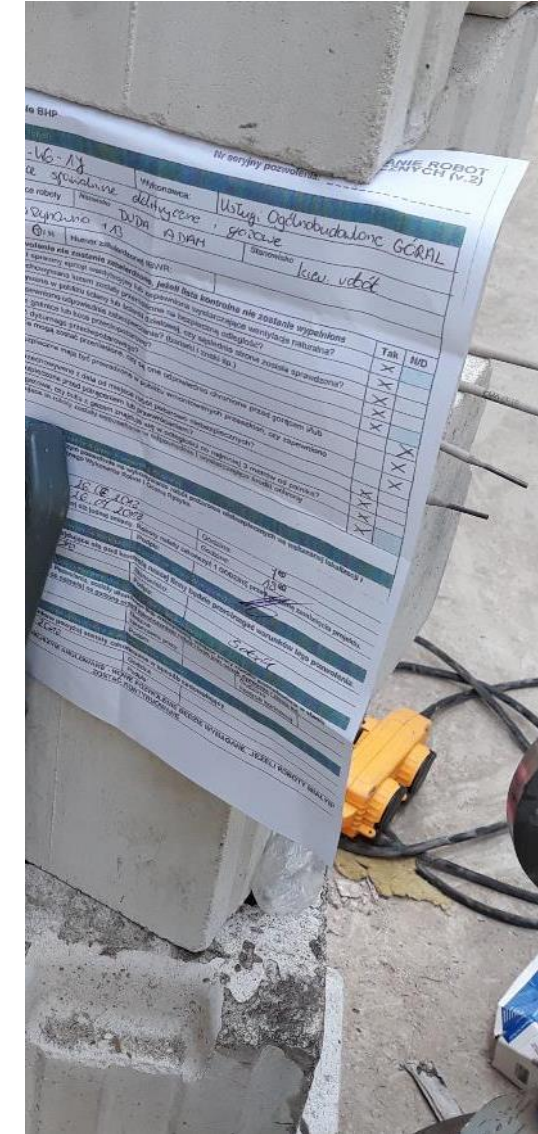
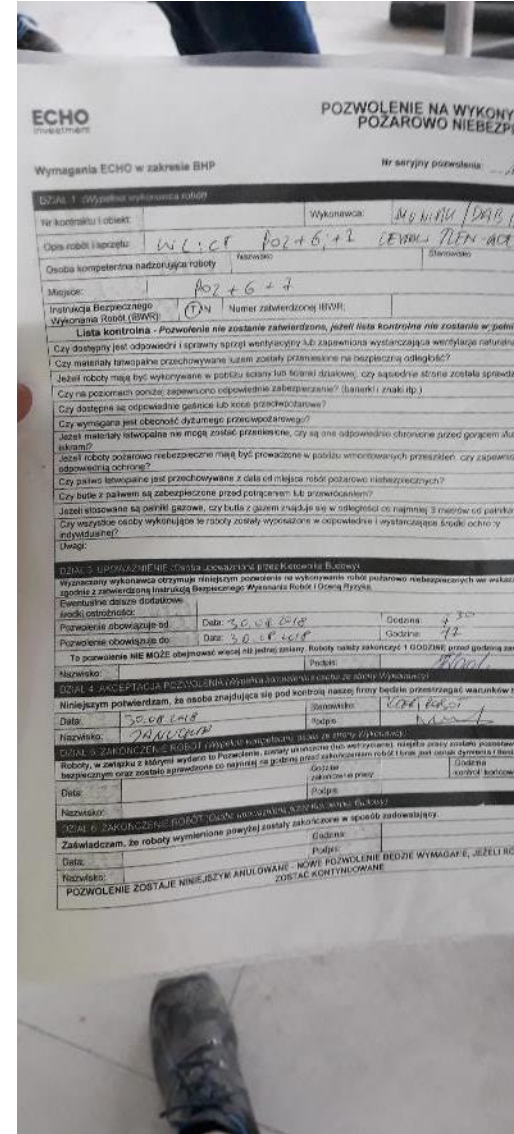
Construction works

Here we go with rebar protection. As you can see there are many available solutions which allow to control this kind of hazards.



Construction works

Uncotrolled hot works on site can be really dangerous for all personnel and erected structure. Make sure if all hot works stations are properly equipped with a fire blanket and at least 6kg powder extinguisher. Check if the responsible contractor supervisor is having the valid permit for hot works.



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Heavy weight equipment

Heavy equipment is a wide topic. Crucial thing is to provide proper pads when working with outriggers, moreover proper hazardous area separation has to be ensured.



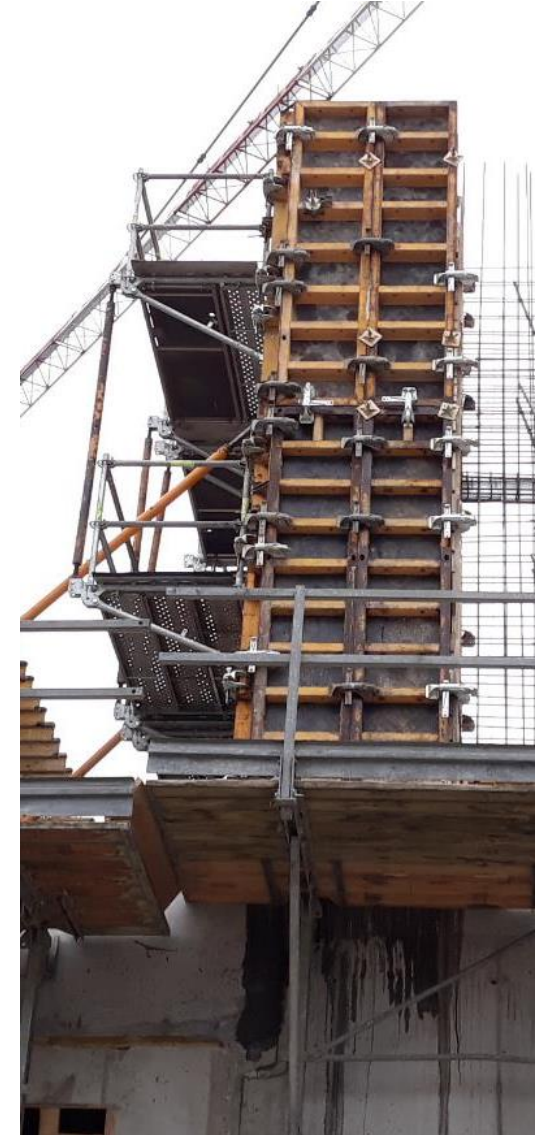
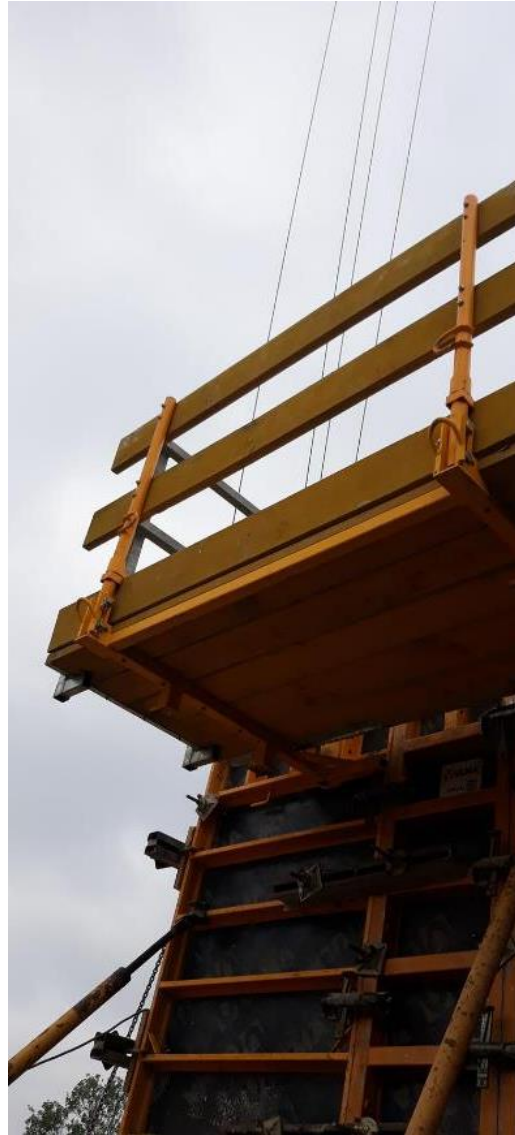
Electricity

Our standard is to secure cables. The most common way is to hang them up. Here we have some ways of doing that on our projects. Pay attention to provide sufficient number of power distribution boards (reducing the need to lay extension cables over long distances) with proper technical condition.

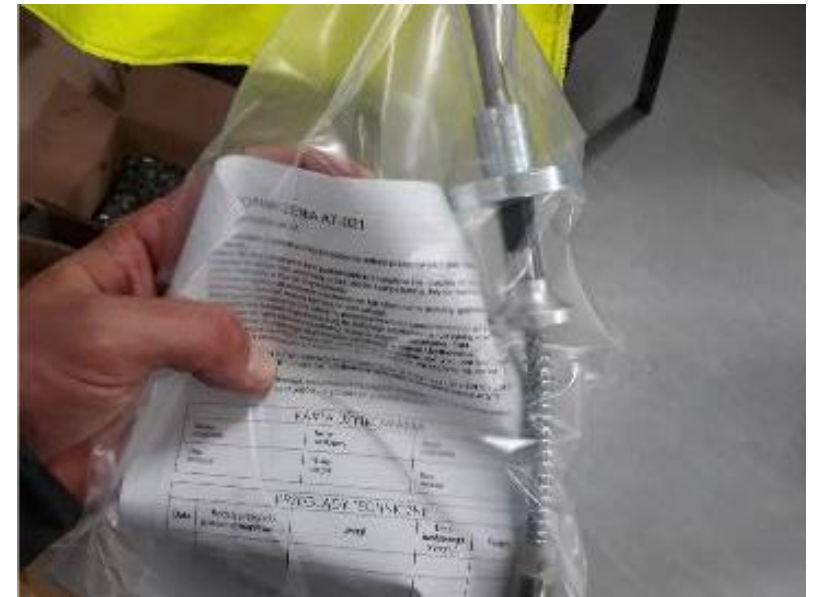
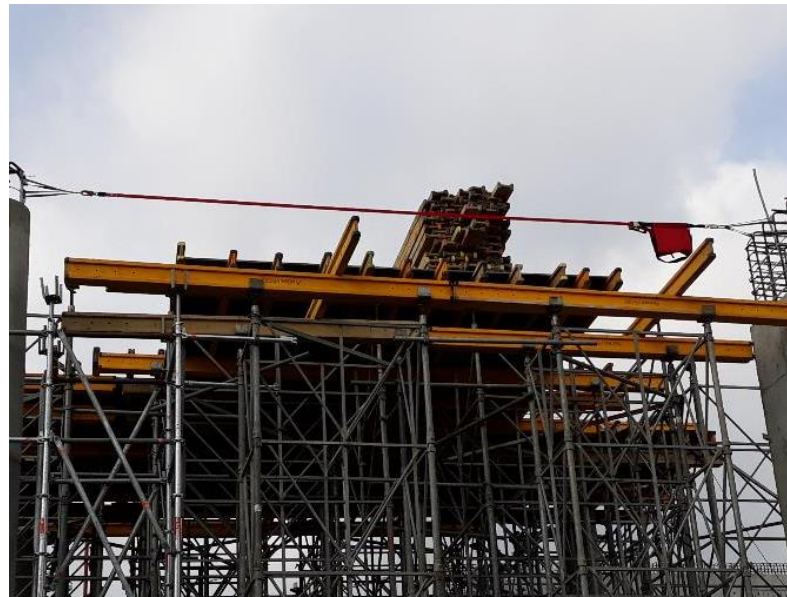


Work at height

Huge improvement in working at height is possible thanks to proper planning and right equipment. Have a look on what we have already done in this area.









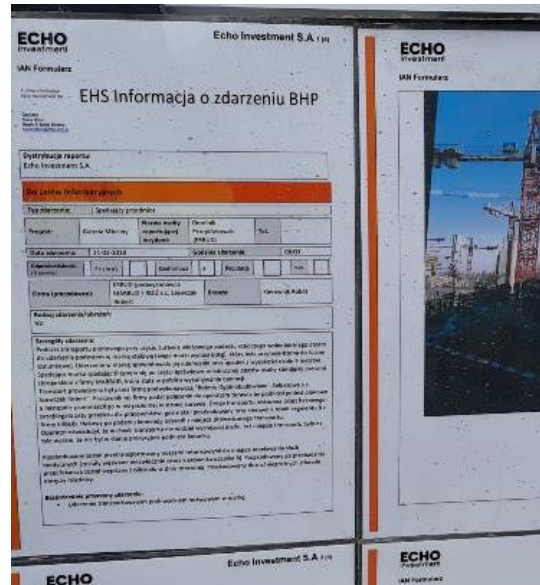
Work at height

At Echo our planning and controls are based on risk assessment. Regarding accidents statistics, working at height is high risk activity and should be treated seriously even on lower levels. That's why one of our requirements is to mandatory use of guardrails around the working platform starting from 0,5m height.



Communication

Let's talk about safety. Proper safety management must be properly communicated: directly on boards, posters or stands. When safety is attractive it's easily implementable and it's more understandable for employees.



PRACUJ BEZPIECZNIE
WORK SAFELY / ПРАЦУЙ БЕЗПЕЧНО

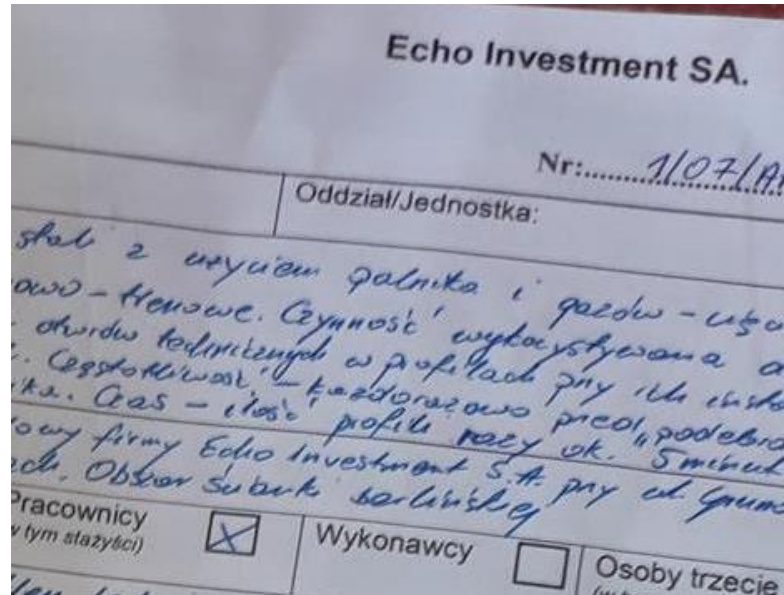
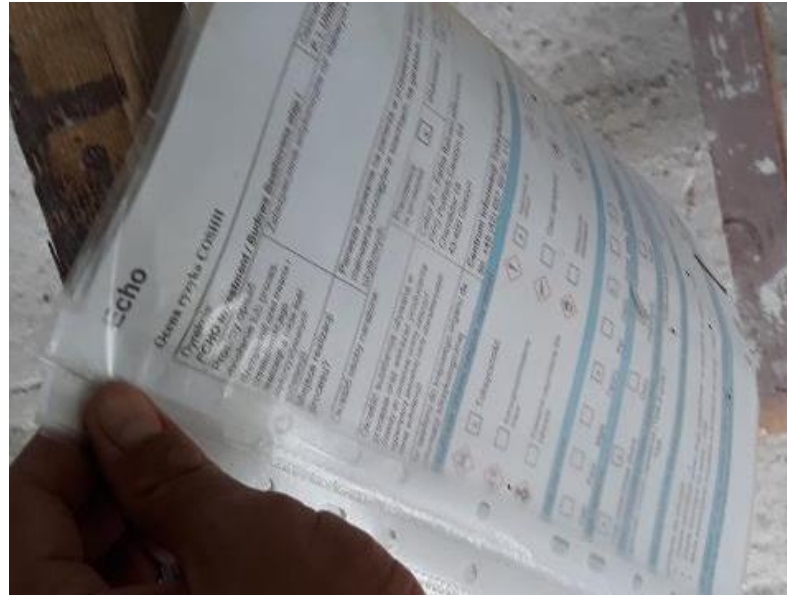
TO JEST OSOBA, KTÓRA ODPOWIADA ZA TWOJE BEZPIECZEŃSTWO.
THIS IS THE PERSON WHO IS RESPONSIBLE FOR YOUR SAFETY.
ЦЕ ЛЮДИНА, ВІДПОВІДАЛЬНА ЗА ВАШУ БЕЗПЕКУ.

- » Stosuj odzież ochronną oraz środki Ochrony Indywidualnej.
- » Use protective clothing and Personal Protective Equipment.
- » Використовуйте захисний одяг та індивідуальні засоби обладнання.

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Chemicals

Containment of hazardous materials is required for protection of environment from contamination as well as for protection of employees who work in areas where hazardous materials are stored and used. Remember to complete the control of substances hazardous to health card and familiarize employees with it whenever a new hazardous substance appears on the construction site.



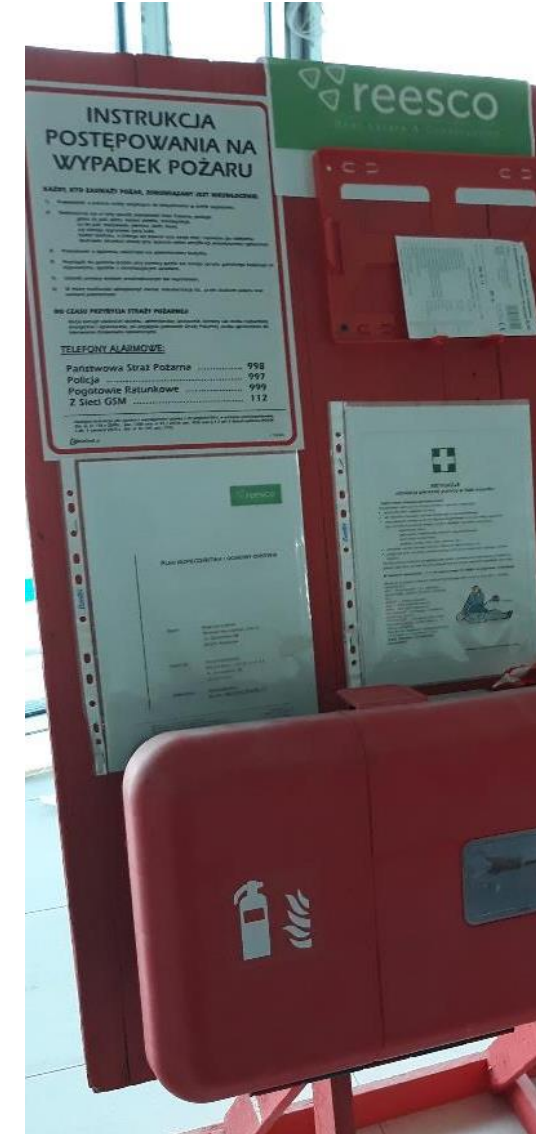
Natural environment

Smart waste management is crucial and obviously has impact on other areas, e.g. a waste compacter container allows you to save some space on your plot. Mobile bins facilitate removal of trash from site. Clean site means better organized site and finally safer site.



Crisis situations

Principal rule says always be prepared, both for evacuation and first aid. However, do anything possible to prevent the situation. Be sure that evacuation signs are placed and proper equipment is available on site eg. megaphone to alert all personnel on site.









Personal Protection Equipment

Personal protection equipment is the last resort if you don't have any other possibilities to protect employees such as collective protection equipment. On our site obligatory PPE are hard hat, vest and safety shoes. Depending on hazards, additional PPE's have to be used, eg dust mask, safety goggles, gloves, ear defenders etc.



Competences

Act only when you have been trained and assessed as competent. Share your knowledge and ensure sufficient task planning throughout carrying pre-task briefings, tool-box talks with your employees. It is also worth to improve your own competences during trainings improving safety management skills.



Smart Way to Stay Safe



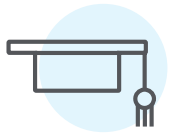
Conduct a risk assessment before any activity



Ensure no contact with any source of energy or hazardous substances



Never enter restricted zones without permission



Act only when you have been trained and assessed as competent



Challenge unsafe behaviours and acts. Never walk by



Protect yourself from falling from height



Always wear proper personal protective equipment, and use proper equipment



Follow safe system of works to any kind of activities



Separate yourself from moving vehicles and plant



Know what to do in emergency



Ensure that all required permit / authorisation are in place



Don't take shortcuts



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