

MACCAFERRI



HELLOMAC

MAKE YOUR ROCKFALL PROTECTION

WEBINAR AGENDA

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5' Introduction

10' HELLOMAC at a glance

20' Deep dive on HELLOMAC features

Live Q&A Session

Speakers

F. Gazado – Business Development Manager - Rockfall

L. Gobbin – Corporate Technical Specialist





“ People and assets around the world are being exposed to a growing mixture of hazards and risks, in places and to an extent previously unrecorded ”

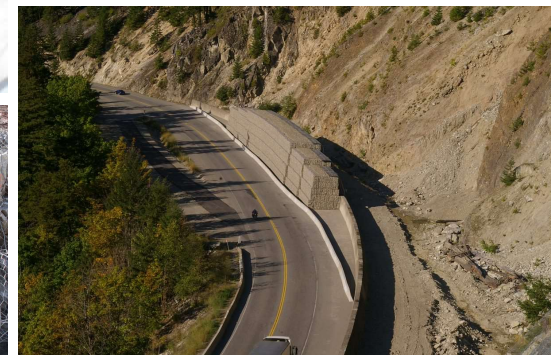
Photo credit: Aftenposten

2019, Global Assessment Report on Disaster Risk Reduction (GAR)



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In order to face the
increasing exposure to risks,
we need **safer solutions.**



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We have
developed a 140
years' experience
in geohazards
mitigation systems.
Every day we
work to provide
more **robust** and
effective solutions.



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Even the strongest protection
system needs confirmation
that everything is functioning
to design.



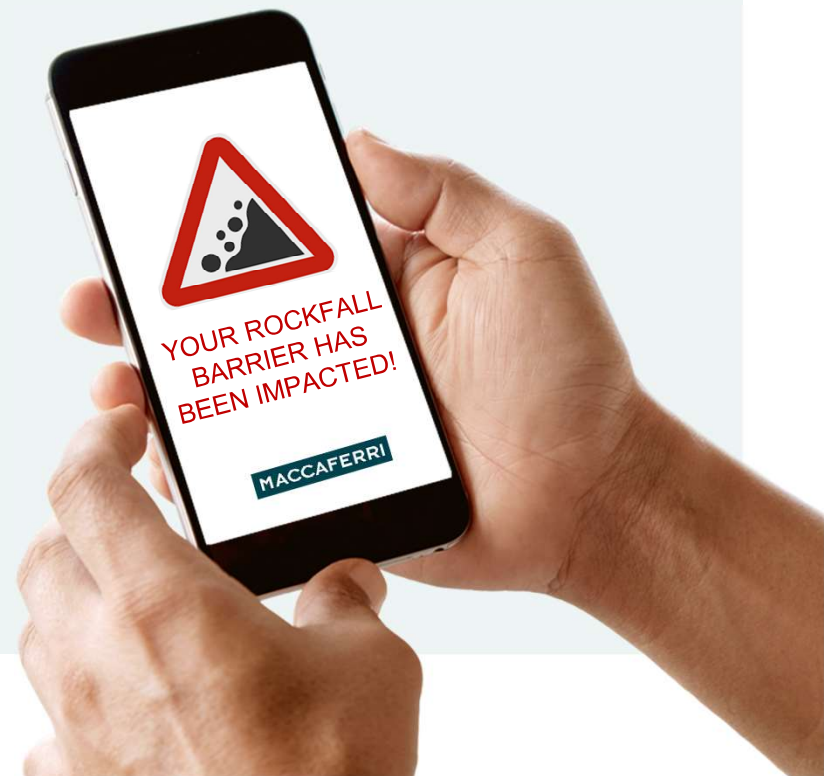
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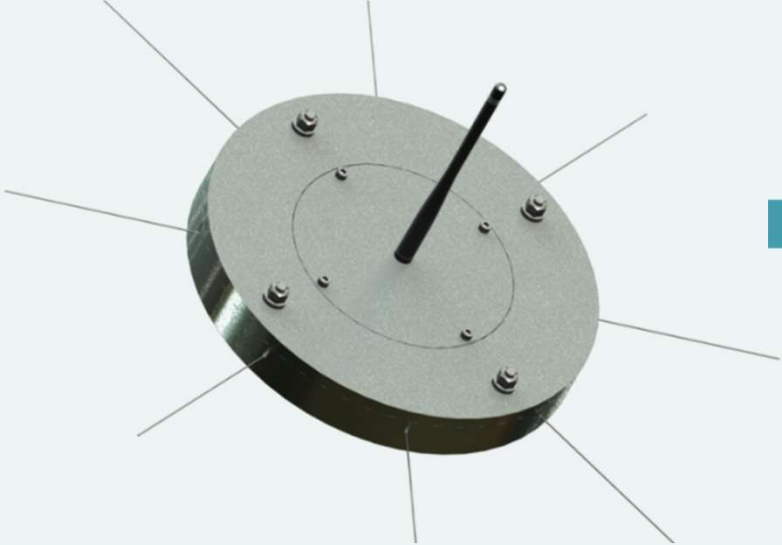
Detecting an event as soon as it occurs is the best way for achieving **risk prevention**.

Traditional
monitoring
systems with
on-site inspections
sometimes can be
quite **complex**
and **time-**
consuming.



In the geotechnical engineering field, the integration of **IoT technologies** in automated monitoring systems plays a key role in overcoming the manual approach.





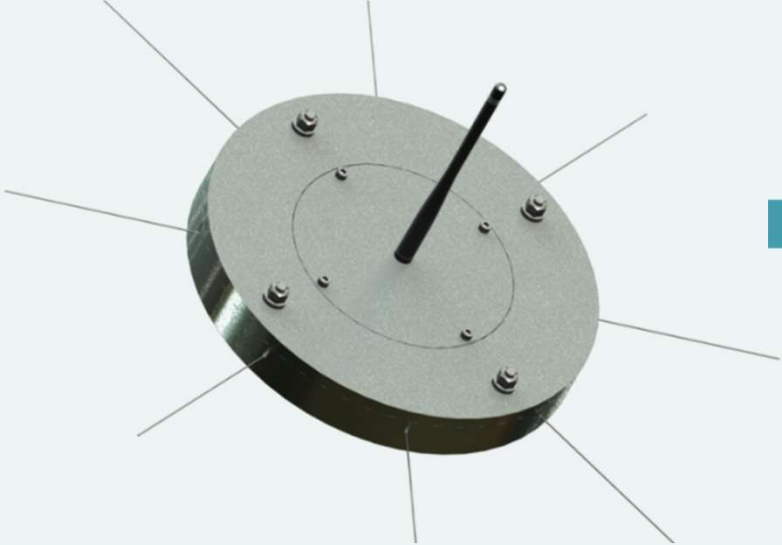
HELLOMAC

MAKE YOUR ROCKFALL PROTECTION SMARTER

ALERT SYSTEM FOR ROCKFALL PROTECTIONS

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video



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ALERT SYSTEM FOR ROCKFALL PROTECTIONS

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What is HELLOMAC?

Why do we need HELLOMAC?

How is HELLOMAC made?

How is HELLOMAC installed?

How does HELLOMAC work?

What benefits does HELLOMAC have?



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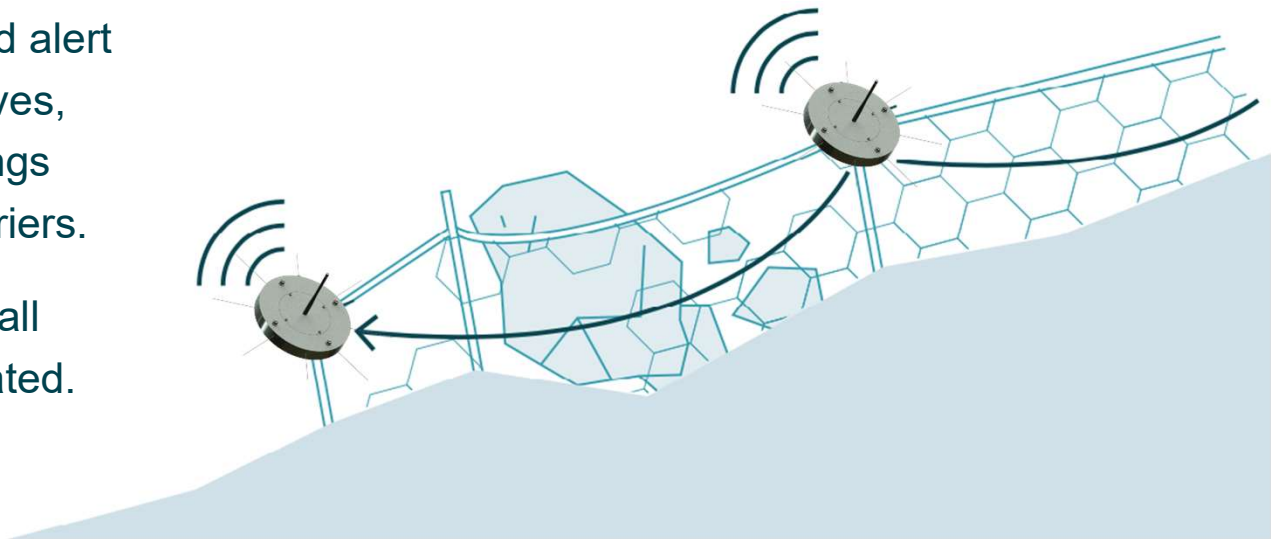


WHAT IS HELLOMAC?

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HELLOMAC is a disk-shaped alert system for safeguarding lives, infrastructures and buildings protected by any kind of barriers.

It is installed on the rockfall protection and easily activated.



HELLOMAC was tested at **Politecnico di Milano** and specifically calibrated on Maccaferri Solutions.

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WHAT IS HELLOMAC?

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HELLOMAC IS A REAL-TIME ALERT SYSTEM

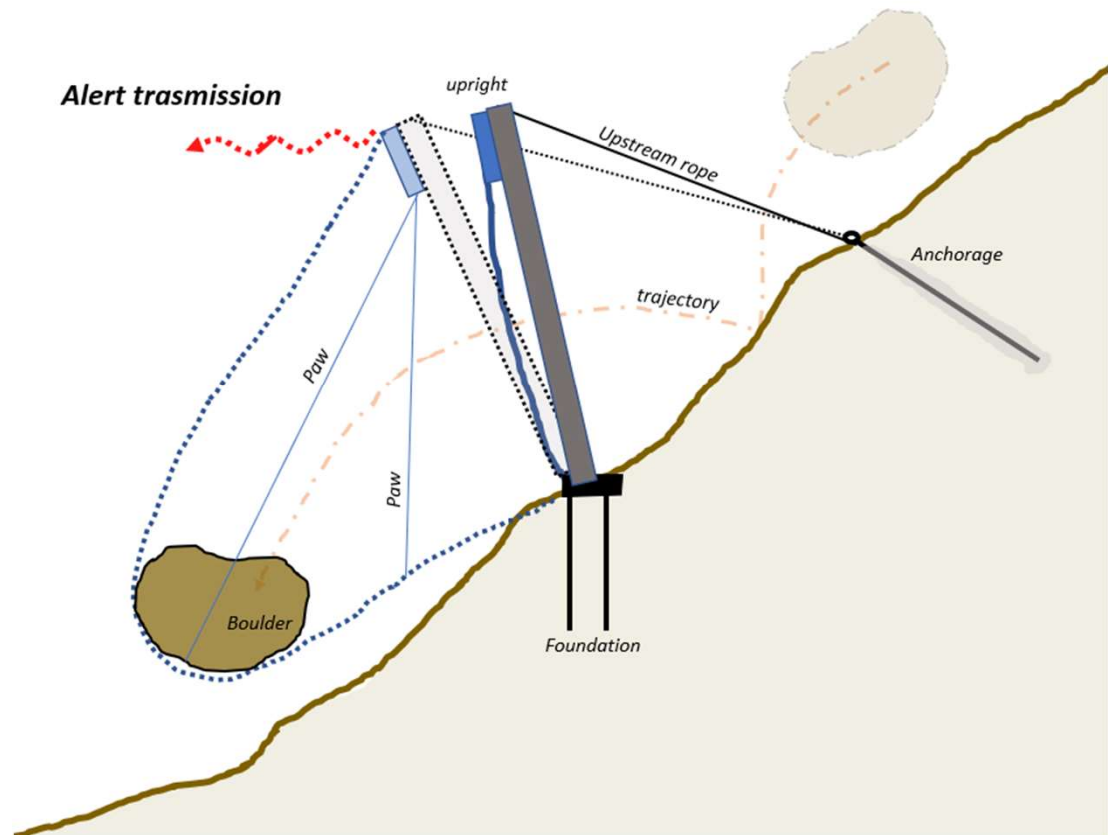


SERVICEABILITY UNDER
CONTROL



DAILY UPDATE ON THE
PROTECTION STATUS

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WHY HELLOMAC?

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*To get real time
information about the
rockfall protection*

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WHY HELLOMAC?

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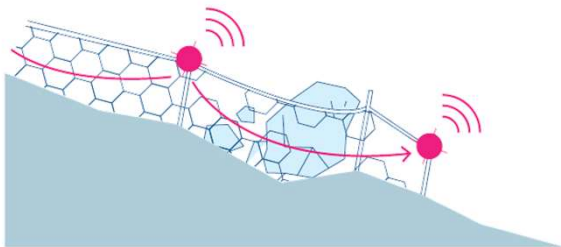
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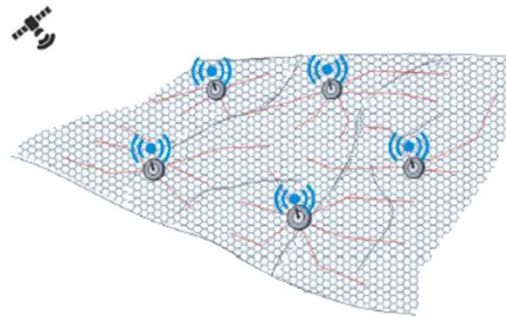


THE NEED FOR A SMART ROCKFALL PROTECTION

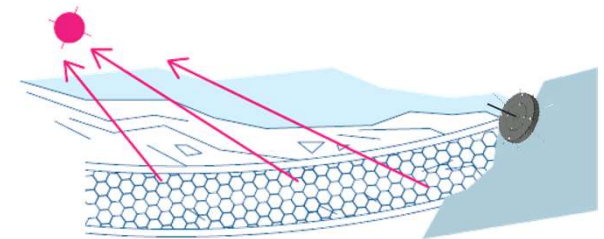
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Rockfall Barrier



Rockfall Drapery Mesh



Debris flow barrier

HELLOMAC sends a notification **when a rockfall event occurs**.
This enables to quickly intervene on the impacted protection system and to restore it.

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WHY HELLOMAC?

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*To investigate the need
for a rockfall protection*

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AN ALERT SYSTEM FOR ROCKFALL EVENTS

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- M** HELLOMAC is designed to be used as an **event alert system**.
- M** HELLOMAC is suited to monitor specific locations where natural events might occur thus enabling decision makers to decide if and where installing rockfall protections.

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FOLLOW THE MOST ADVANCED TECHNICAL STANDARDS

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Always up to date with current legislation and most advanced technical recommendation

HELLOMAC is compliant with the most advanced standards and technical recommendation to mitigate risks generated by natural phenomena.

M Inspections
M Monitoring
M Maintenance



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INNOVATION, PERFORMANCES AND BENEFITS

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HOW IS IT MADE?

HELLOMAC is a disk made of an alloy and with thin tie rods or “legs”.

The disk is the main part of the device and it was **tested to resist impacts** up to 16 g acceleration.

HELLOMAC is powered by 7 batteries with an estimated lifespan of at least **5 years**.



CLICK ON THIS ICON TO **DOWNLOAD** ADDITIONAL
DOCUMENTS ON **HELLOMAC**



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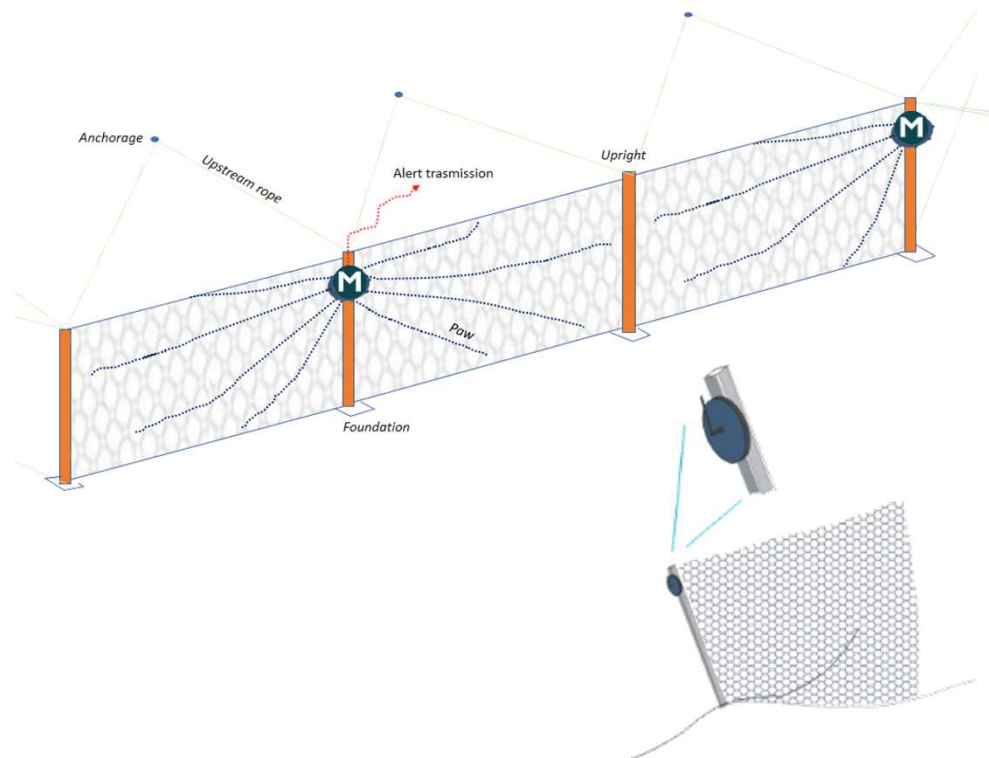


HOW IS IT MADE?

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- M** HELLOMAC weight is approx. 8 kg.
- M** Its small dimension and lightness allow it to be carried to remote places
- M** It can be easily fixed to the rockfall protection and no skilled workers are required

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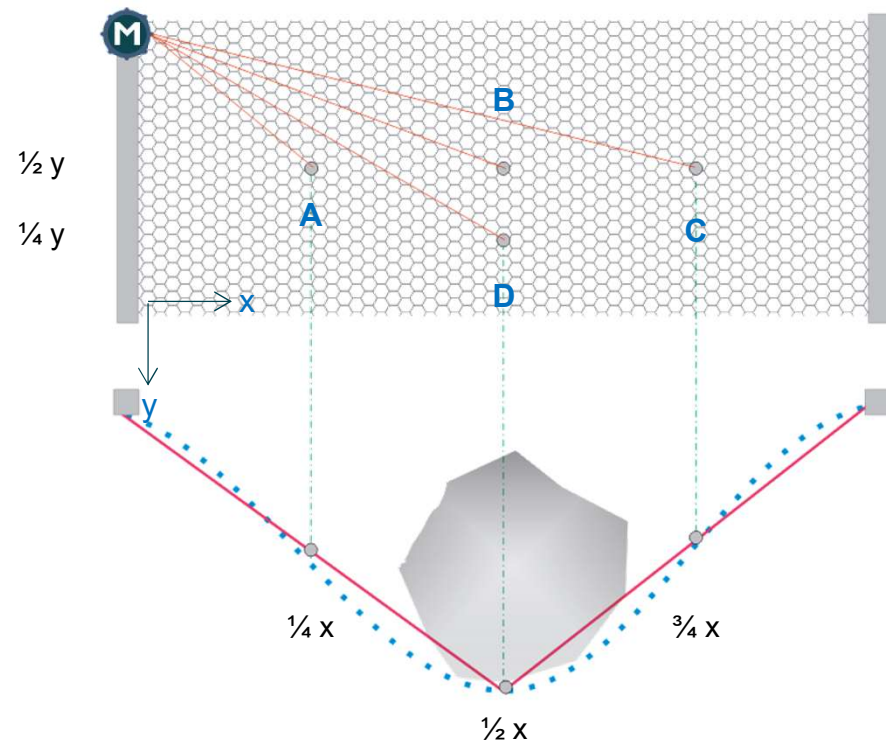


HOW IS IT INSTALLED?

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The legs connect the disk to the different positions of the rockfall protection system.

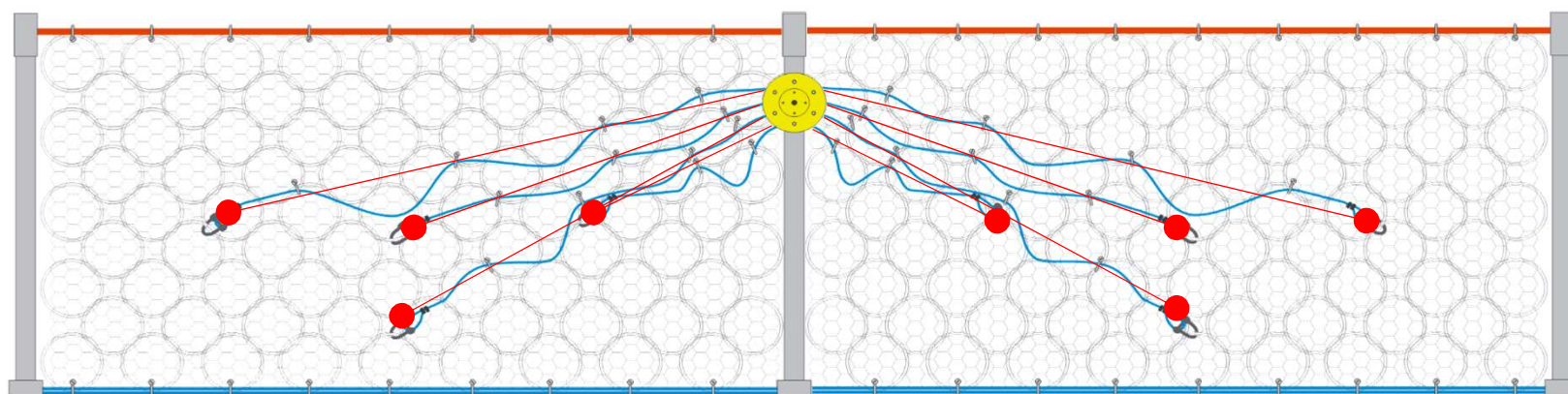
- M** Tie rods or “legs” are fixed in specific areas of the rockfall protection to cover a large area



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DETECTION OF EVERY MOVEMENT



One device ➡ 8 control points

HELLOMAC can detect also where the rockfall protection was impacted

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SUITED TO AGGRESSIVE ENVIRONMENTAL CONDITIONS

- M** HELLOMAC is designed to operate in aggressive climates. Rain, snow, wind and sun are not a problem.
- M** HELLOMAC does not need wiring activities.



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SUITABLE FOR INTEGRATION WITH EXISTING SYSTEMS

- HELLOMAC can be deployed on new rockfall protection system but can also be **retrofitted** on existing ones.
- It is effective at different **energy levels**, as the trigger point can be calibrated.
- HELLOMAC system can be **integrated** with other existing monitoring/alert systems



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WHAT KIND OF INFORMATION CAN I HAVE?

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Do you know how many
rockfall protections are in
your area and where are
they located exactly?



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WHAT KIND OF INFORMATION CAN I HAVE?

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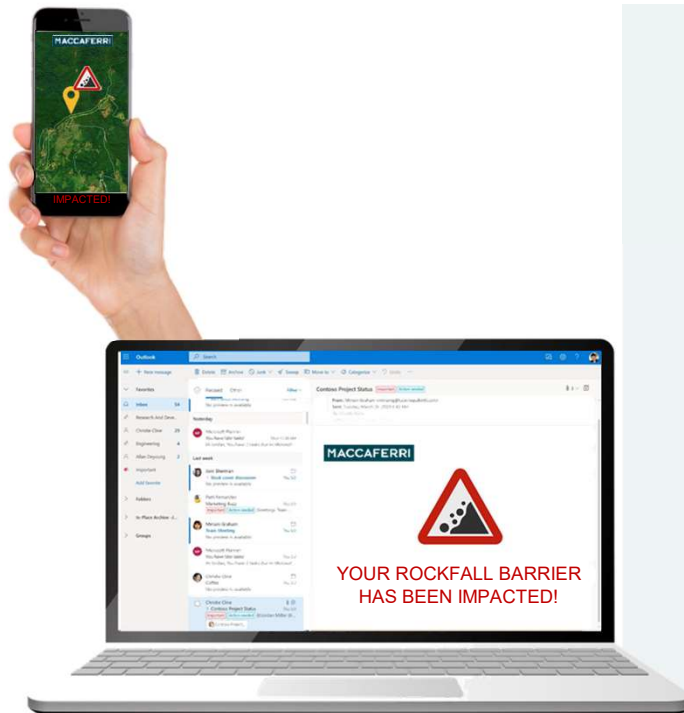
Do you know the status of
the rockfall protections?
Have they been
impacted? Where? When?



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HOW DOES IT WORK?



HELLOMAC alerts people promptly.
Whatever the system to monitor is.

The alarm is immediately notified to
a computer or smartphone via app,
email or text.

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HOW DOES IT WORK?

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HELLOMAC alerts people promptly.

M via **Satellite**
(Iridium)



M via **GSM**



***Never without
network coverage!***

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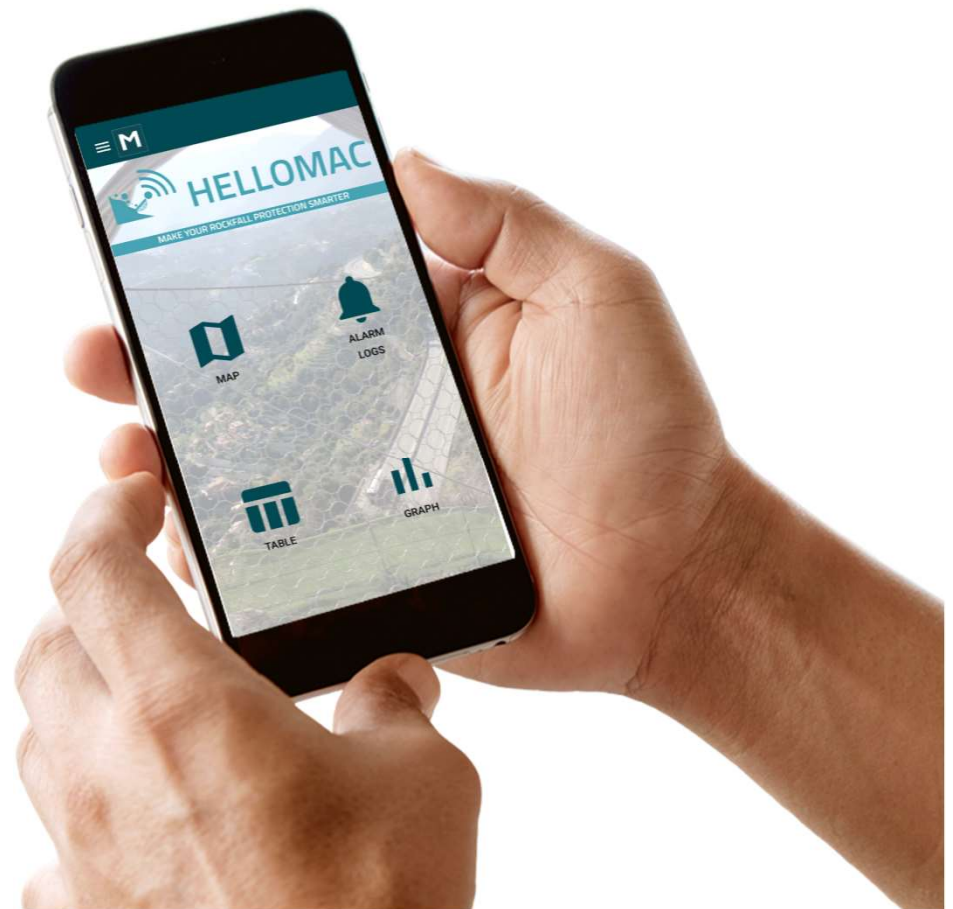
WHAT KIND OF INFORMATION CAN I HAVE?

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HELLOMAC APP

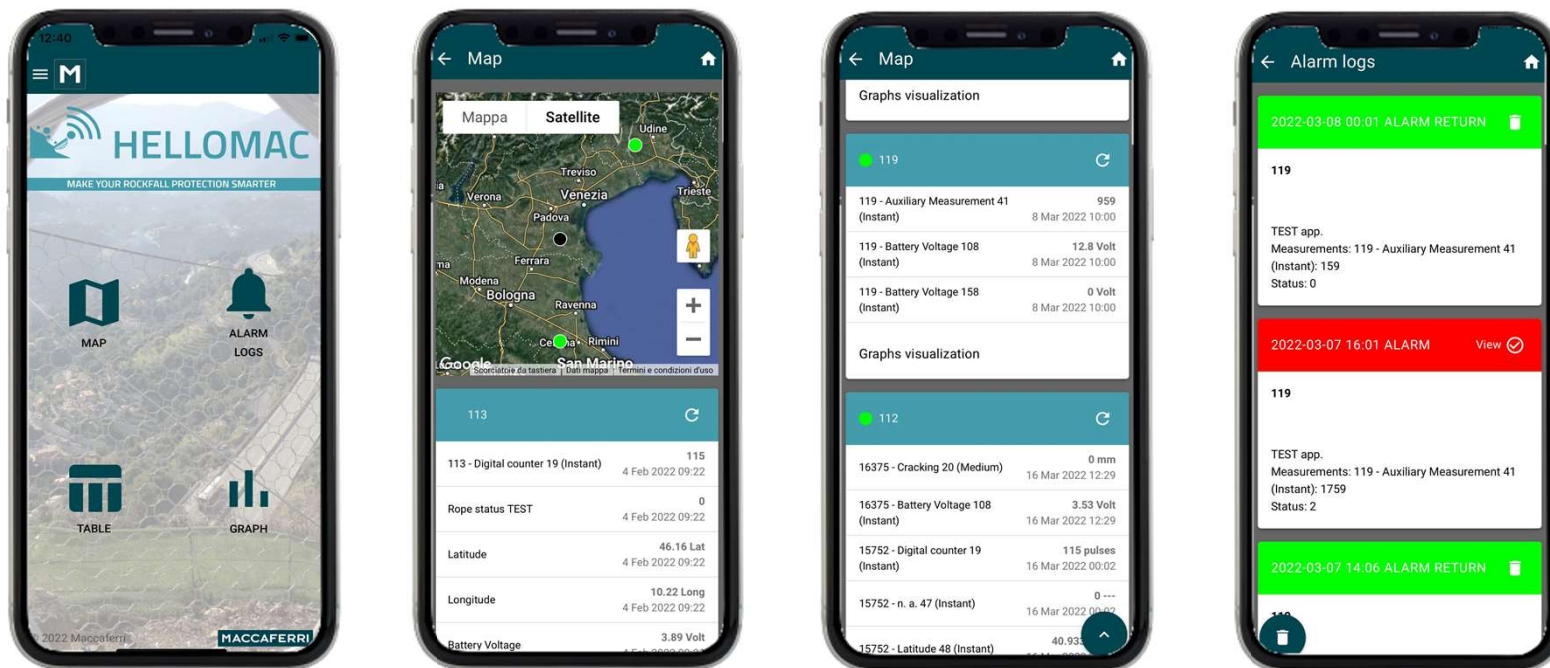
- M** Geolocation
- M** Alerts
- M** Notifications
- M** Data

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WHAT KIND OF INFORMATION CAN I HAVE?

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WHAT KIND OF INFORMATION CAN I HAVE?

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HELLOMAC APP



All the information you need,
at your fingertips.

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Download on
the App Store!



Get it on
Google Play!



HOW DOES IT WORK?

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M Local alarms and commands
In case of an event HELLOMAC can automatically activate traffic lights, signals, sirens and gates.

M other sensors available



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INNOVATION, PERFORMANCES AND BENEFITS

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LET'S RECAP!



RELIABLE

- **Real-time** alert system
- **Daily transmission** of the status for each protection system
- **Never without network coverage**
- One device, **8 sensors** and complete detection of any movement



EASY TO INSTALL

- Limited weight and small dimensions
- Easily fixed and no skilled workers required
- Installation on every rockfall protection, also existing ones



MAINTENANCE FREE

- 7 batteries with an estimated lifespan of at least **5 years**
- No **wiring activities**
- Designed to operate in aggressive climates
- **Tested against impacts**

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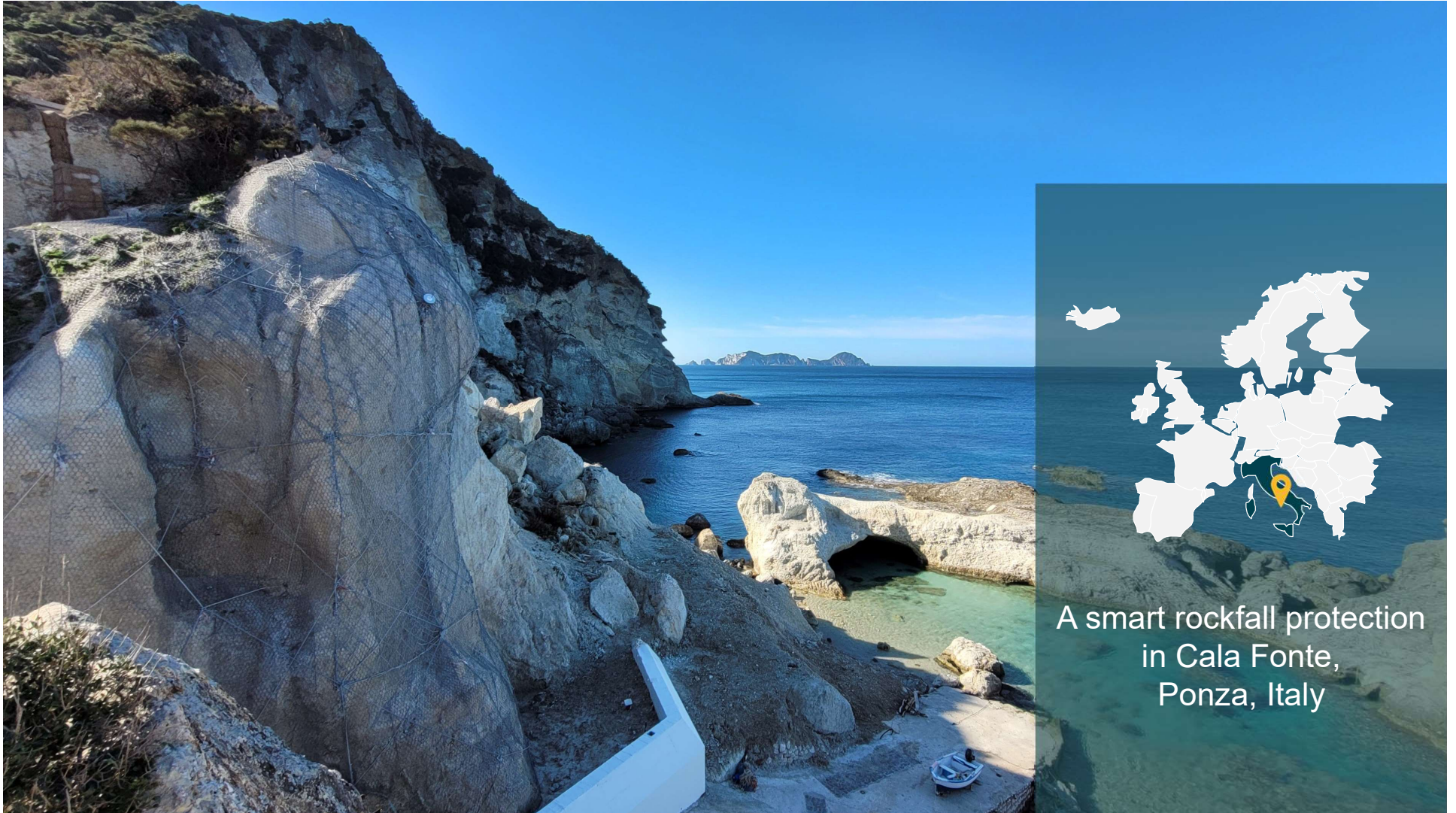


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A smart rockfall protection
in Cala Fonte,
Ponza, Italy

ONE OF OUR SUCCESS STORIES

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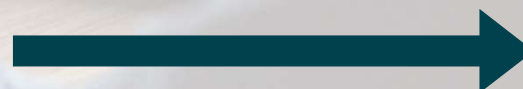
CLICK ON THE DOCUMENTS SECTION
FOR DOWNLOADING THE MATERIALS





WEBINAR

FOR DEDICATED **WEBINARS / MEETINGS**
TYPE «**TRAINING**» IN THE CHAT BOX



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HELLOMAC

MAKE YOUR ROCKFALL PROTECTION



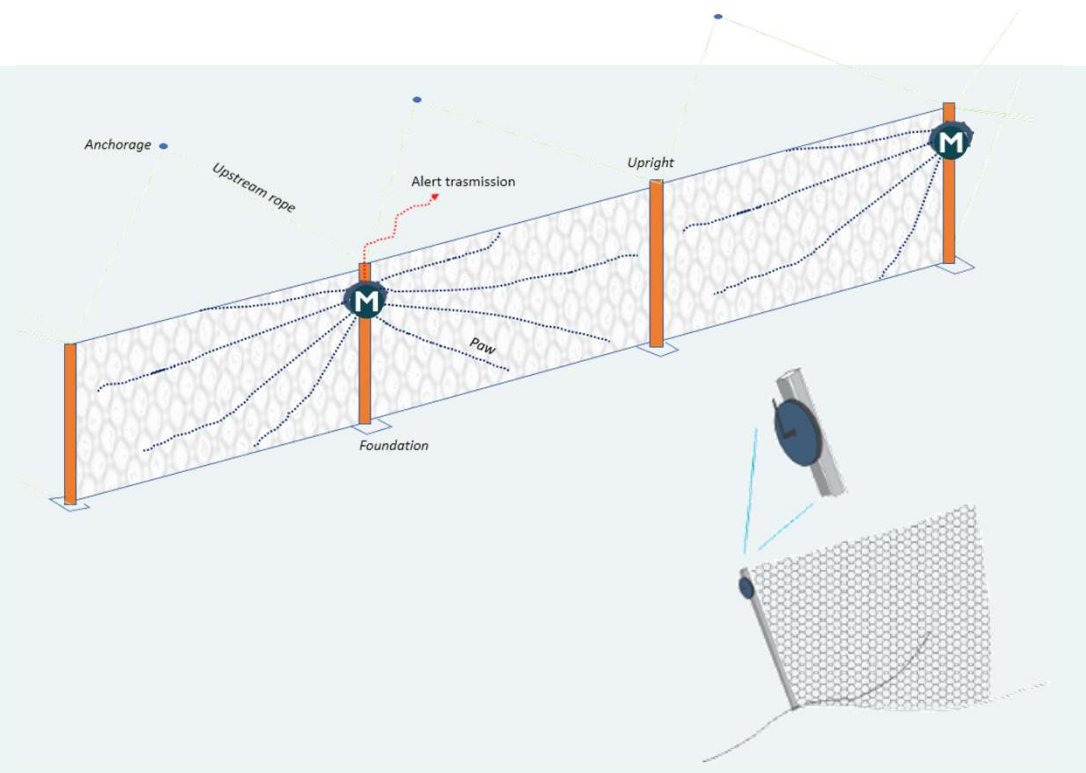
MAKE YOUR ROCKFALL PROTECTION SMARTER

Live Q&A

TYPE YOUR QUESTIONS IN THE CHAT BOX

How it's installed

- M** Tie rods or “arms”, fixed in specific areas of the rockfall protection to detect different points
- M** According to the model of the protection
- M** Possibility of retrofitting on existing barriers



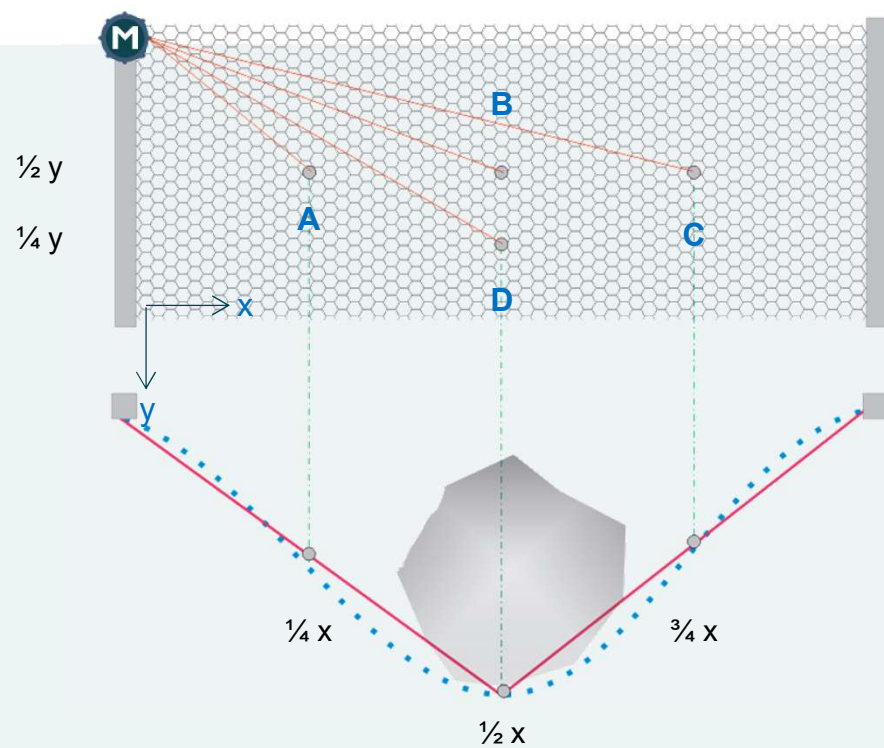
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How it's installed

Model: Kit RB 1500 (10m x 4m)			
Position	slack of the tie rod [m]	Length without slack [m]	Total length [m]
A	1.26	3.20	4.46
B	1.93	5.38	7.31
C	0.39	7.76	8.15
D	0.78	5.83	6.61

Eg. Application in a single panel barrier

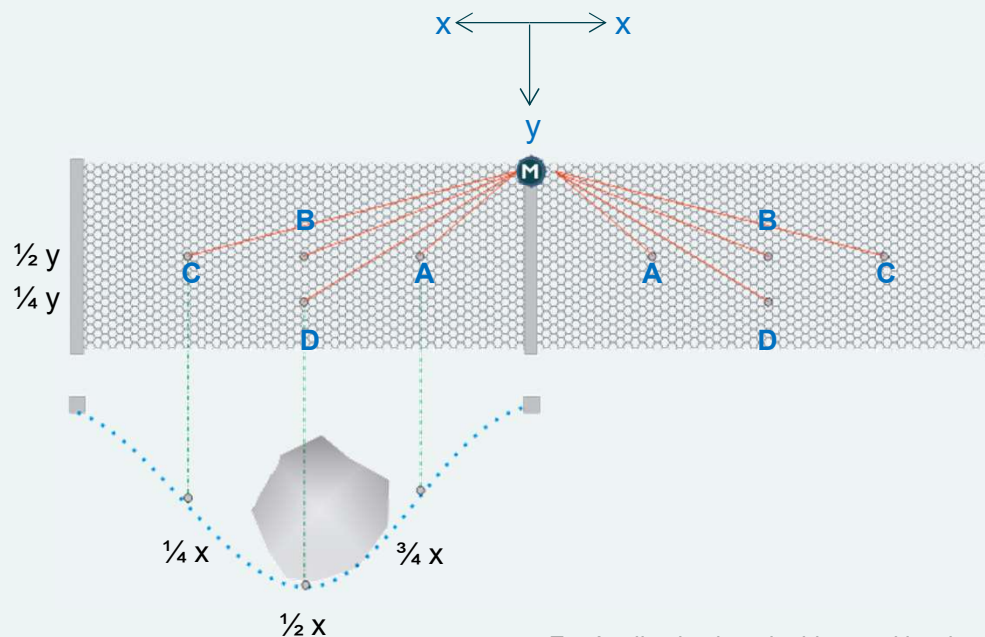


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Eg. Application in a double panel barrier

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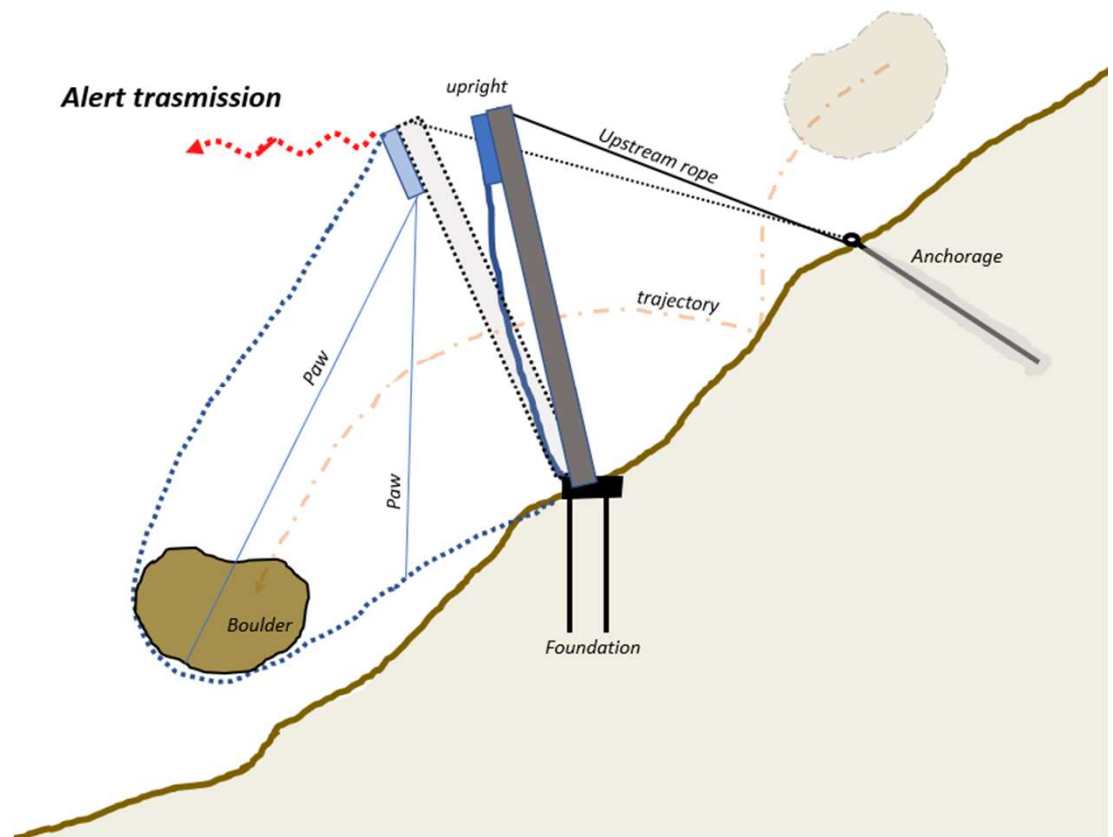
HELLOMAC: REAL TIME UPDATES

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HELLOMAC
IS AN ALERT
SYSTEM

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HELLOMAC IS AN ALERT SYSTEM



SERVICEABILITY UNDER CONTROL

An alert message is sent when the service level is reached; HELLOMAC not only inform you about the fact that an impact occurred but also on the status of the rockfall protection.



DAILY UPDATE ON THE BARRIER STATUS

The information are communicated on a daily basis or as soon as a rockfall event occurred. The protection can be timely restored reducing hazards for people and assets.

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