IAF - 5th International Space Forum at Ministerial Level

The Central America and Caribbean Chapter (ISF 2023)

"Space Science and Technology for improving regional opportunities and better facing local challenges" - 6th March 2023 – Panama

"Space solutions can save lives, time and money" – Dominique Tilmans

Dear Excellencies, Dear Colleagues,

I tell you a secret! I've seen the paradise; I've been to the San Blas Islands. What a wonderful country you have! Amazing!!

Well heaven is not for me now it's for later and I decided to come back to earth to discuss with you about a key contribution that space can bring in the case of extreme emergency

As Former Senator, I'm an advocate of space and particularly for space solutions because they are relevant tools to help our administrations to be more efficiency and to offer a better-quality service to Civil Society

Today, with my hat of President of Eurisy, an association that raises awareness of the benefits of space for society since more than 30 years now, I want to bring to your attention the Advanced Mobile location that I think can be appropriate to the Latin-American and Caribbean Countries.

Street interviews

Before that, I want to show you a slide about a street interview we are launching with Eurisy just a few days ago
It has no statistical value, but gives us an idea about the knowledge the people have about space

As you can see people don't know space can save lives

This will help us to prepare a survey on the knowledge people have of space. We will organize it across Europe in collaboration with our members, which are mostly the space agencies

Advanced Mobile Location -AML.

I'll explain how satellite system can support person in distress.

Imagine. You are walking in the middle of nowhere and you have an accident, you are injured and far from any rescue service.

What do you do? Your only chance is your mobile.

So, you take it and call the emergency number of your country. They ask you your exact position but you can't answer, or vaguely. However, knowing the exact location of a person in distress can make a difference between 1 hour-long rescue mission and a 4 day-long search mission.

Fortunately, a solution exists!

Since this 24 January, Galileo, the Global Navigation Satellite System (GNSS), has begun to deliver its High Accuracy Service, that allow users to locate themselves in real-time with an accuracy of less than 25 cm …. compared to the accuracy of hundreds of metres, or even kilometres without the AML …. what can be fatal!!!!

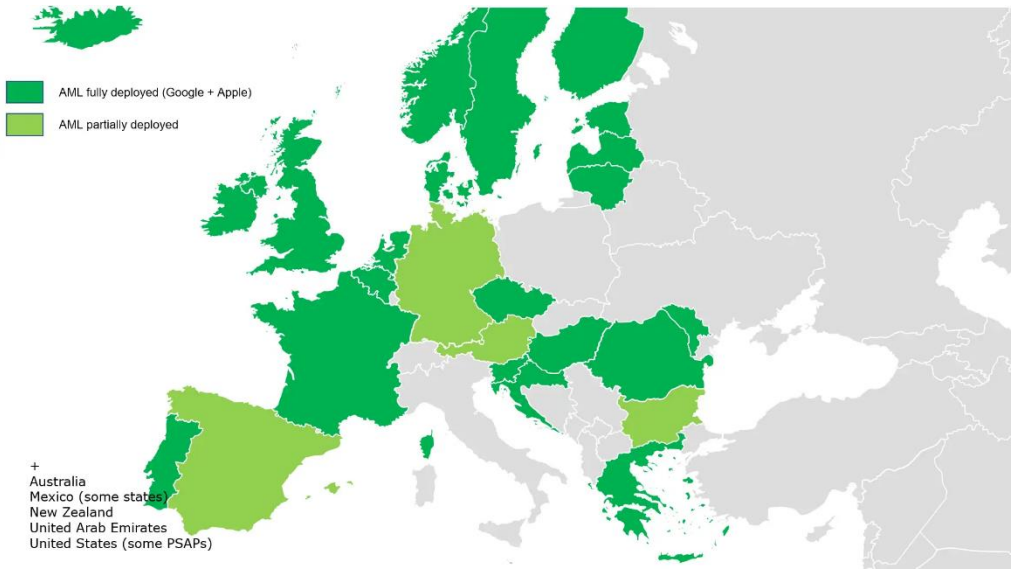
I'll show you a video that speaks for itself.

https://www.youtube.com/watch?v=T0sJ6CZfAh8&ab_channel=Google

How it works?

An AML-enabled Smartphone recognises when an emergency call is made.
If your position is not already activated, the AML activates your phone to collect your location. Then sends an automatic SMS/HTTPS to the emergency service with your location

It’s free-of-charge and available on android smartphones



Where the AML is implemented?

In 30 countries worldwide in Europe also in Australia, Mexico, New Zeeland, United Arab Emirates, and the United States.
Maybe soon in Panama?

It mandatory for all the European Member States to make use of handset-derived location to locate people calling emergency services

Do I have to do anything to activate AML on my mobile?

No. AML is not an app and does not require any action from the user.

The next question is: who must configure AML? It’s a political decision!!!

I’ll not enter in technical details but it’s a decision of

- The Ministry of Interior who is the key actor in AML deployment

- In some countries the Ministry of Health and the Ministry of Defence may be involved.

- They must discuss with the emergency service and the Mobile operating systems providers

to set the definition of:

- the end-point for the country,
- the transmission (SMS or HTTPS)
- and the emergency numbers for which AML will be activated

Why AML is not implemented in all countries and is not well-known?

Because, us, policy-makers and decisions makers are not enough aware about the benefits of space solutions!!

Please keep in mind: space solutions are not the exclusive domain of engineers it's also the responsibility of politicians!!

For more information: The AML is contact person is Benoit Vivier, EENA Public Affairs Manager at bv@eena.org

A short conclusion

Too often we have a limited view of things but today space widens our vision of possible. Vision of possible for outer Space of course but not only, also a vision of possible to better understand our planet, to make it more sustainable, more habitable and to help us to overcome the great challenges we are facing

This are the reasons why space is part of our future and the reason why I'm an advocate of space!

Slide 8 - **2d topic: Strategic maps for administrations to make the difference between: Land Cover & Land Use**

Today in most of countries, the existing Land Cover and Land Use (LCLU) maps are derived from cadastral and agricultural information but did not allow to distinguish information between the 2 maps (flood, storms, reconstructions, drought).

In 2017, Belgium launched a project to produce land cover map and land use map based on annual aerial photos and time series of free satellite imagery

What are their utility?

Slide 9 - The land cover map (LC) highlights the physical and biological coverage of the territory, allowing for the identification of natural landscapes, such as trees, waters, bushes, and grassland, as well as manmade assets, like buildings, rails, routes, and infrastructure.
The Land Cover map provides information that can be used by public administrations and private actors like the farmers to facilitate decision-making.

Slide 10 - The land use (LU) map details the uses of the regional territory. The map classifies land uses under different categories: primary / secondary / tertiary

These maps identify sensitive issues such as floods or drought areas and develop management plans to reduce risks and manage and monitor the inventory of sites to be requalified
That information can be used by citizens, administrations and building professionals

Slide 11 - Mobile map

Slide 12 - Contact: nathalie.stephenne@spw.wallonie.be https://spw.wallonie.be/

Slide 13 - **3d topic: My last example is a space solutions which allows to identify ships not adhering to international regulations on ships emissions.**

Since 2020, the international regulations imposed by the International Maritime Organization (IMO) require seafaring vessels to meet lower emission standards. Indeed, shipping contributes heavily to air pollution, due to Nitrogen oxides (NOx) and Sulphur dioxide (SO_2) emissions

However, physically inspecting every ship coming to a Dutch port is practically impossible, and post-fact detection of noncompliant behaviour outside of ports could be challenging and certainly less effective

In 2013, Nederland's started to develop a monitoring system to track Nitrogen oxides emissions and identify uncompliant ships. Its combine:

- Ship location information in the hours before and up to the time when the satellite passes over the area, with
- Data on wind direction,
- Speed in the high seas,
- Weather and air quality,
- Ship length and speed.

All those EO data, helped them in projecting the potential dispersion of pollutants by single ships.

Slide 15 – what are the results?

- Polluting boats are prohibited from entering ports
- Avoid concentration of pollutants and improve air quality
- The maritime policy has more time to target inspections of vessels that are potentially non-compliant and their workload has been reduced.

Slide 16 – my conclusions

Too often we have a limited view of things but today space widens our vision of possible (une vision des possibles) . Vision of possible for outer Space of course but not only, also a vision of possible to better understand our planet, to make it more sustainable, more habitable and to help us to overcome the great challenges we are facing

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