



HELLENIC NATIONAL METEOROLOGICAL SERVICE

**AWS Network of HNMS : A brief
presentation and the experience gained of
its use**

Nick Kalamaras

HNMS, Department of Weather Stations

**International Conference on Automatic Weather Stations
(ICAWS-2017), 24-26 October 2017**

Offenbach am Main, Germany

***“Automatic weather stations for environmental intelligence –
the AWS in the 21st century.”***



HELLENIC NATIONAL METEOROLOGICAL SERVICE



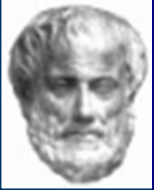


HELLENIC NATIONAL METEOROLOGICAL SERVICE

● HNMS Weather Station Network

● Consists of 110 weather stations :

- 27 fully manned
- 33 semi-automated
- 50 automatic



HELLENIC NATIONAL METEOROLOGICAL SERVICE

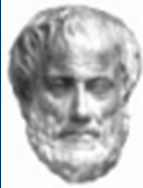


Circles: Fully manned
Triangles: Semi-automated
Squares: Automatic



HELLENIC NATIONAL METEOROLOGICAL SERVICE

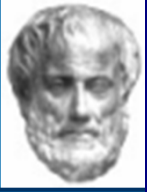
- HNMS Automatic Weather Stations (AWS):
 - Vaisala MAWS 110 and MILOS520
 - They measure:
 - Wind
 - Temperature
 - Humidity
 - Pressure
 - Precipitation



HELLENIC NATIONAL METEOROLOGICAL SERVICE

- AWS Sensors
- Temperature-Humidity (QMH102 or HMD45D)

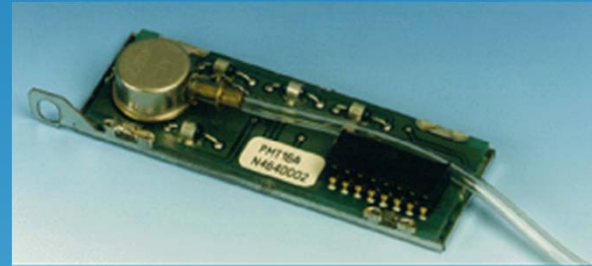




HELLENIC NATIONAL METEOROLOGICAL SERVICE

○ AWS Sensors

○ Pressure (PMT16A)



○ Wind (WAA151 & WAV 151)





HELLENIC NATIONAL METEOROLOGICAL SERVICE

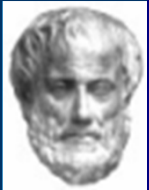
○ AWS Sensors

○ Precipitation (RG13)



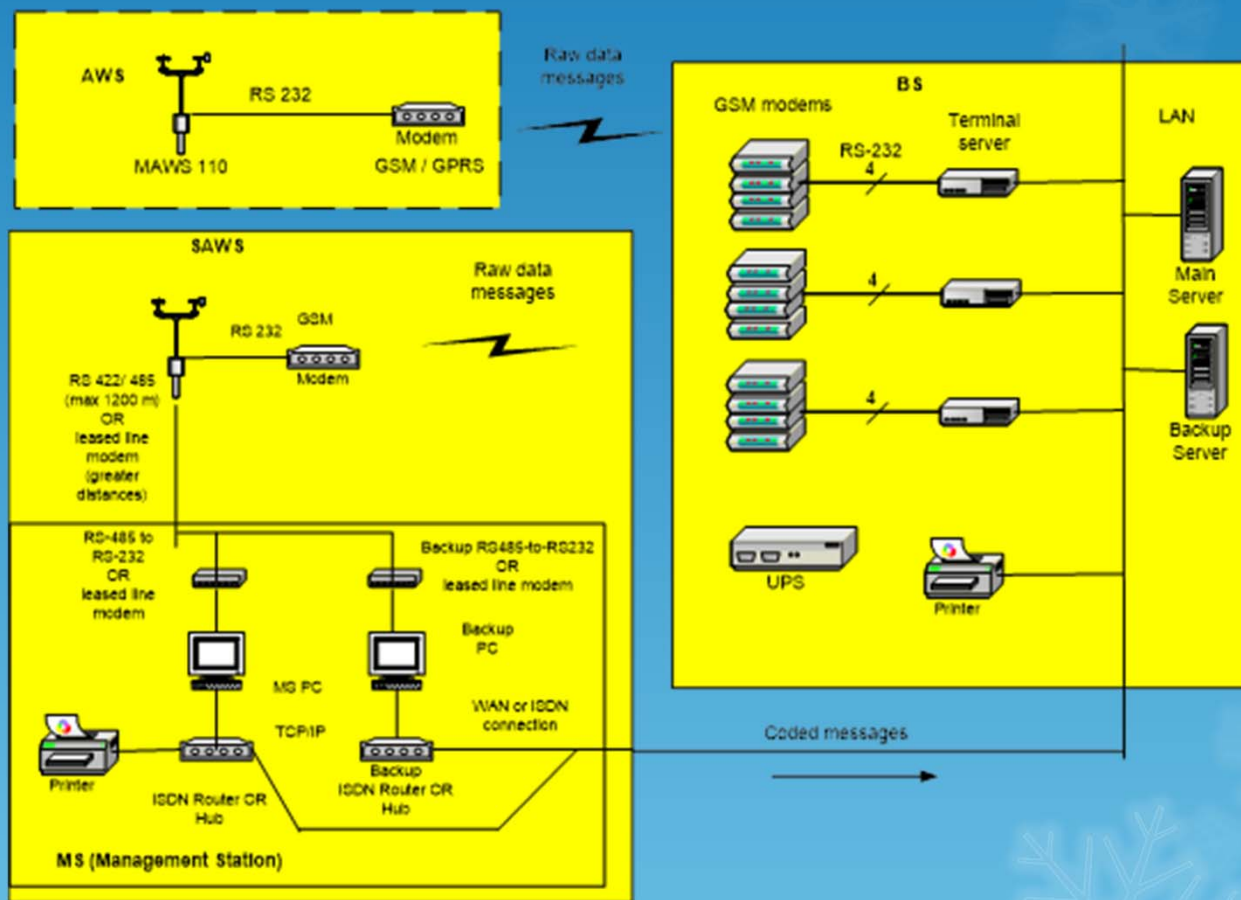
○ Precipitation detection

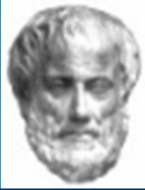




HELLENIC NATIONAL METEOROLOGICAL SERVICE

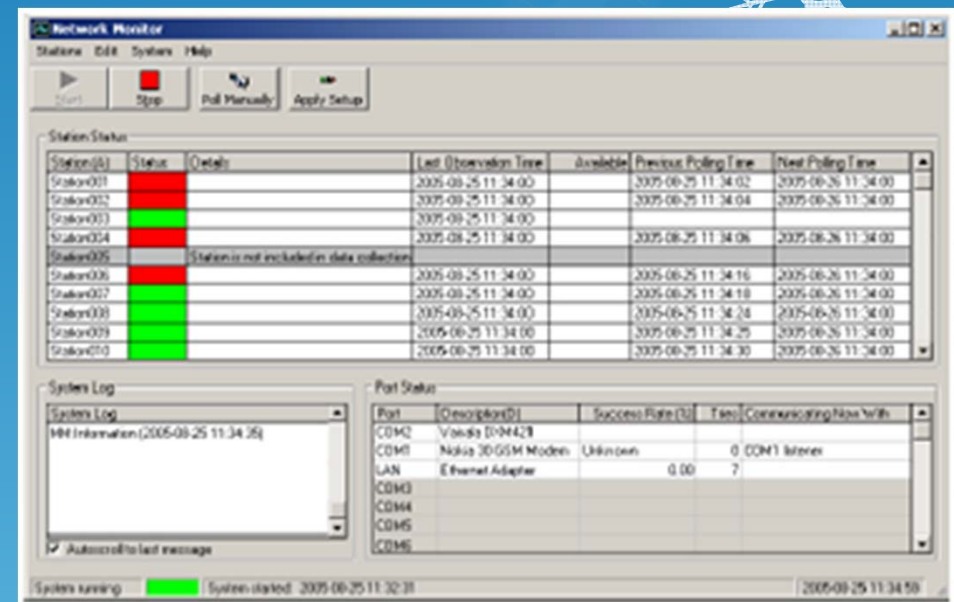
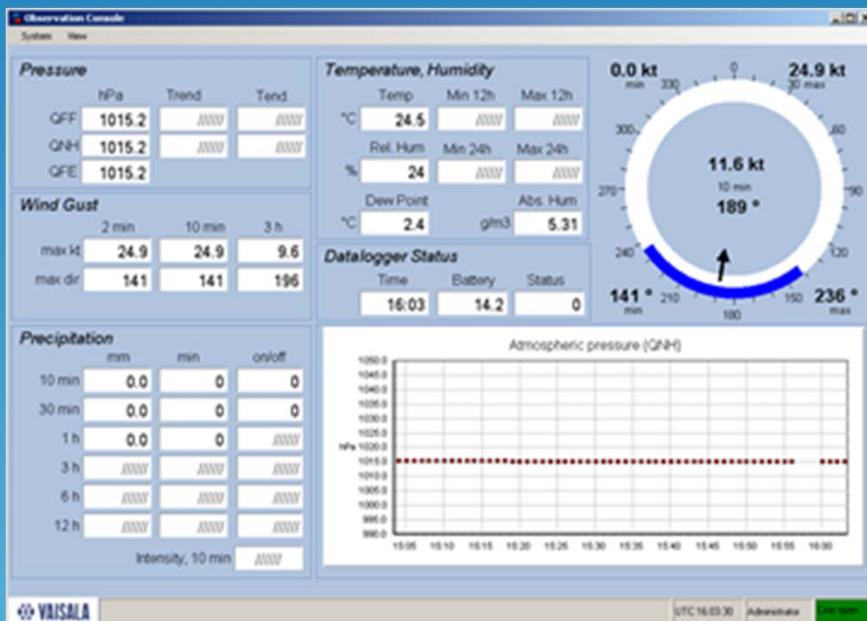
SAWS-AWS system architecture

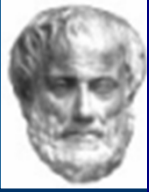




HELLENIC NATIONAL METEOROLOGICAL SERVICE

SAWS-AWS software





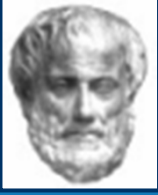
HELLENIC NATIONAL METEOROLOGICAL SERVICE

○ Experience gained

○ Maintenance

- Availability in spare parts.
- Cost of the necessary infrastructure (appropriate tools, standard devices for sensor calibration etc.).
- Technicians have to stay away from their base (at a hotel) during their transition to maintain or to repair a fault at AWS sites.
- The cost of transportations is often high.

○ Malfunction of sensors (False rain)



○ Conclusions

- It is absolutely necessary to boost maintenance infrastructure. All the aspects of maintenance are strongly depended on financial support. Having in mind the current financial problems, it is very important to minimize the cost of maintenance. Therefore, more efficient financial management requires a better organization of the maintenance system.
- The second point is clearly stated by WMO excerpt , which refers to the need of technical personnel retraining:
- *"As an AWS is based on the application of technology that differs considerably from the equipment at conventional stations and networks, a comprehensive review of existing training programmes and of the skills of the necessary technical staff is obviously required."*



HELLENIC NATIONAL METEOROLOGICAL SERVICE

Thank you very much for your
attention !