ENSURING DATA BANKABILITY FOR A SMART SOLAR RESOURCE ASSESSMENT AND MANY FIELDS OF APPLICATIONS

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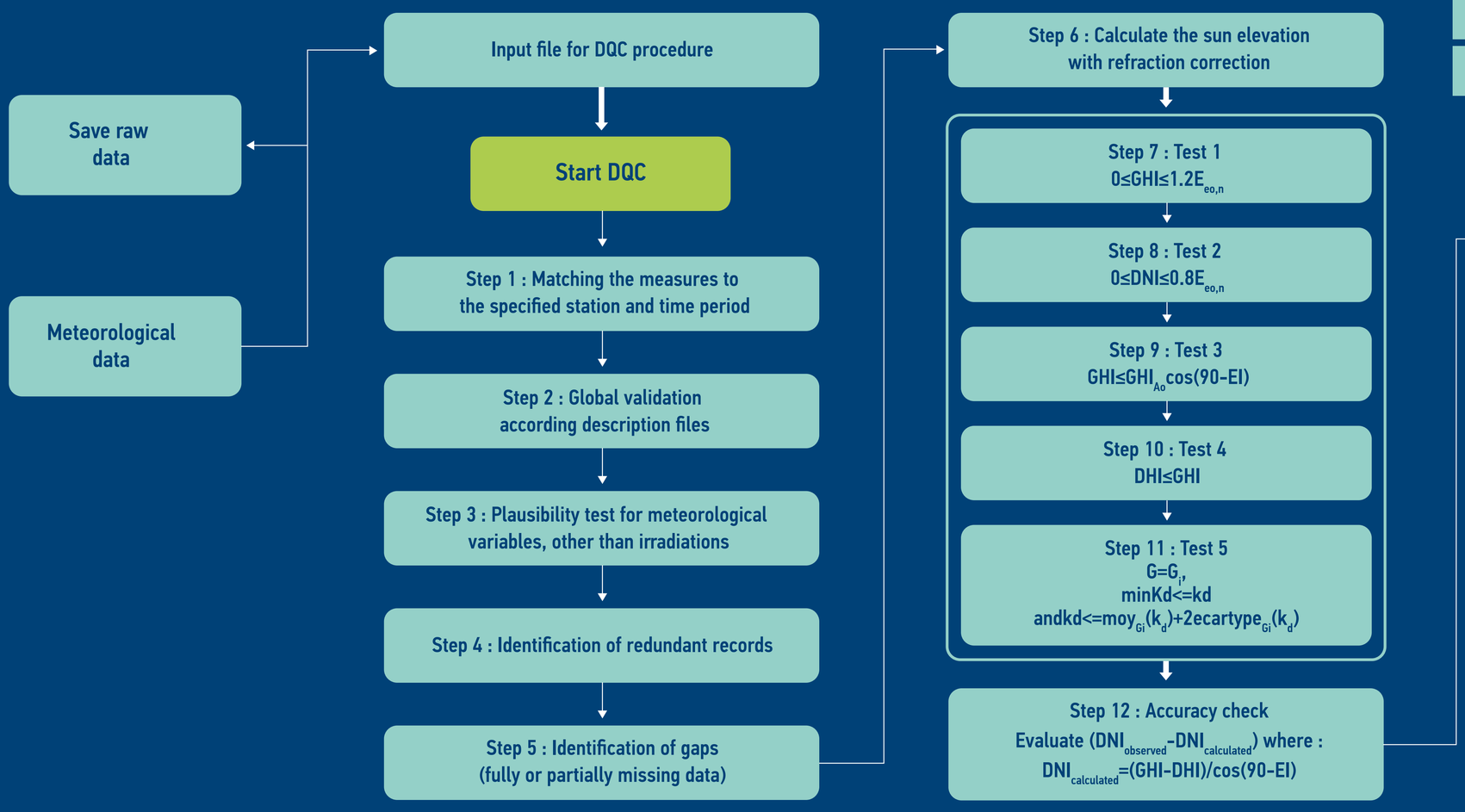
> PURPOSE OF THE PAPER

The development of sustainable projects stimulates the demand's increase in the concern of bankable data. Whether assessing a site's potential for renewable energy power generation or monitoring performance of existing installations, reliable and accurate measurements are crucial. They aid in decision making, product development, system maintenance, and it can be used also for the deployment of many fields, such as agriculture and forestry, hydrology, climate change and oceanography, health, technology and materials. Disposing reliable data is not an easy task and it requires several important aspects. In this context, the paper addresses some pertinent issues in the concern of a holistic quality process: use of high quality equipment, specific methods of installation, regular cleaning and maintenance, Labo and site calibration, data analysis and an automated quality control.

> EXPERIMENTAL METHODOLOGY AND RELEVANCE

Data Quality Check procedures (DQC) are developed in order to evaluate measured data, to provide confidence and reliability, by using data analysis tools.



Station	*Commissioning*	*Location*
Station 1	March 2010	Ourzazate
Station 2	November 2010	Ourzazate
Station 3	May 2012	Ourzazate

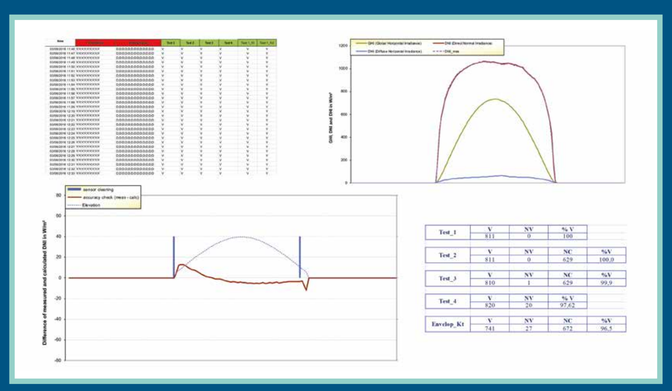
MASEN's stations from rich data series are obtained

> ANALYSIS AND FINDINGS

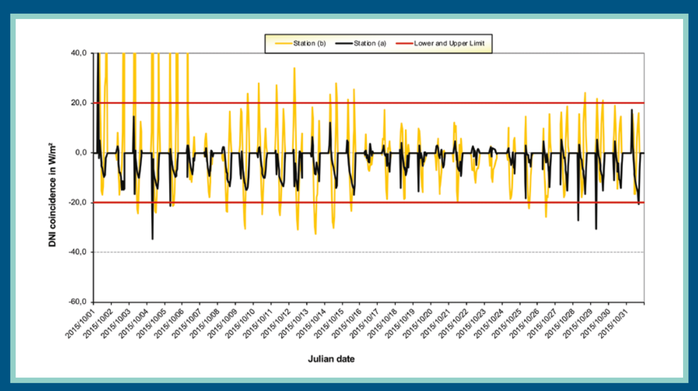
DQC is very efficient for detecting "strange" values, and thus for deep data analysis.

Time	*Screening Message*	*Comment*
20/01/2014 07:40	Fast DNI-accuracy change	Cleaning
20/01/2015 07:40 20/01/2015 07:50	Relative humidity exceeds the limits	Dew
05/08/2015 14:30	Values are missing	Data gap

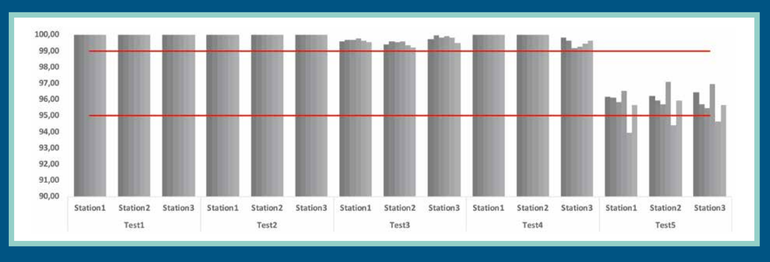
Example of screening reports



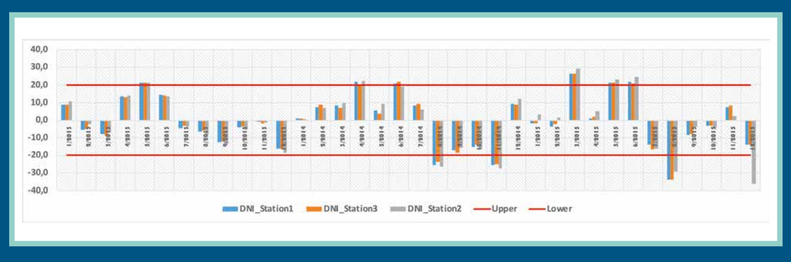
Some results extracted from daily DQC reporting



Effect of regular cleaning comparison between two stations.
Station (a) is regularly (daily) cleaned while station (b) is irregularly cleaned (twice per week)



Daily validity (%) basing on DQC tests (9 months)



The analysis (3 years) highlights a variability through the year and between the three stations, with nearly seasonal variation.
The measured irradiations at the 3 stations are very close.

> IMPORTANT MESSAGE

No major erroneous values are identified, except for singular occurring events. This is due to the implemented quality process and especially, to the regular evaluation and monitoring, the cleaning and the maintenance.