

## Accelerating Innovation Acceptance by VERIFICATION

*The purpose of verification is to obtain market acceptance of new technologies through an objective validation of performance and thereby increase purchasers' confidence in new technologies.*

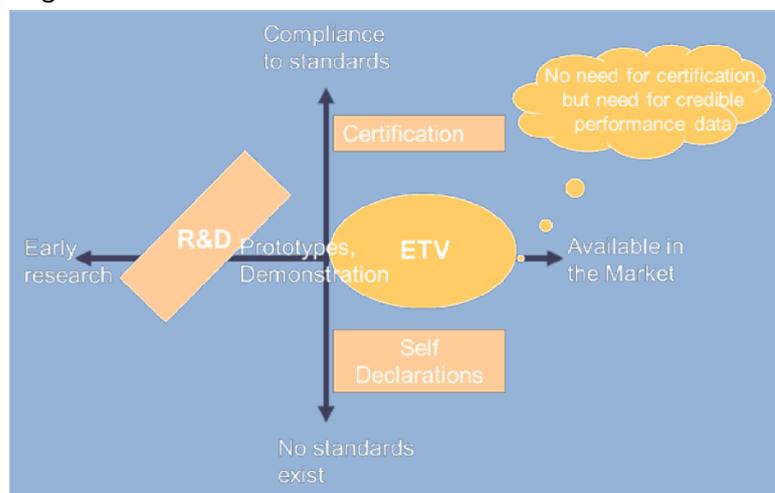
**The market today requests innovative technologies. In particular, Small and Medium sized Enterprises (SME) not only have difficulty introducing new technologies onto the market but they also find it very costly. One reason is that purchasers want to ensure that the products meet certain standards and therefore often request product certificates issued in compliance with a standard. Establishing a Standard is a long procedure, especially when consensus is involved as it is in Europe (see the case story about Concrete). The market therefore needs an alternative: VERIFICATION - as proposed by the Environmental Technology Verification (ETV) methodology.**

The verification of technology performance was introduced in California for environmental, water and air measuring technologies in the beginning of the 90'ies and was taken over by U.S. EPA and Environment Canada, who launched verification programmes in 1995 and 1997 respectively.

After the launch of the North American ETV programmes, Korea, Japan and the Philippines followed and recently China has launched a pilot programme. Within the EU several initiatives have been taken since 2007 in preparation for an actual EU ETV programme. In December 2011 the EU Pilot Programme was launched and the first organisations are currently being accredited so as to be able to perform verifications within the programme.

The established verification programmes are now focusing on mutual recognition of the verifications and have established an international working group with representatives from the authorities behind the ETV programmes. The goal is to have one globally accepted verification procedure.

**VERIFICATION:** An accredited third party validation of the performance of a technology. The advantage of verification is that the vendors, in cooperation with the accredited verification body, decide how and under which conditions the verification should take place. Verifications can be made more quickly and less expensively than certifications and type approvals and can be made for new products just entering the market.



The purpose of verification is to obtain market acceptance of new technologies through an objective validation of performance and thereby increase purchasers' confidence in new technologies.

## Case: Solar air heaters for ventilation

There are no product standards for the use of solar air heaters as energy sources for ventilators for houses that are used periodically, such as summer houses, nor is there an official forum where these technologies can be compared. The market is growing rapidly and the vendors are trying to promote the differences in their products, which sometimes ends up with vendor A comparing his technology with the technology of vendor B. In some cases this will be like comparing apples and oranges and will most often end up with a claim that technology A is better than the competing technology B.

In Denmark the Consumer Council has noticed that some vendors have had their technologies verified and the Council has initiated that a larger quantity of solar air heaters was tested under identical conditions.

## EU Environmental Technology Verification Pilot Programme

The EU ETV Pilot Programme is running for a period of three years. The programme has a steering group with members from France, Finland, Denmark, Czech Republic, Poland, United Kingdom and Belgium, while Germany, the Netherlands and Slovakia are observers.

The EU has chosen the following technology areas to be included in the pilot phase:

- Materials, waste and resources
- Water treatment and monitoring
- Energy technologies.

The EU plans to extend the list of technology areas.

In addition to the EU ETV Pilot Programme, national ETV programmes exist in Denmark and France offering verification of air pollution monitoring and abatement, cleaner production and processes, environmental technologies for agriculture and soil, and groundwater monitoring and remediation.



*Technologies verified by DANETV. Dall Energy furnace and Biocover slurry application technology.*

## Case: Transforming the negative impact of concrete into an opportunity

Innovation in the largest economic sector - construction - is very restricted due to standards. The process in Europe requires consensus between 28 countries resulting in mediocre compromises, a very long processing time for committees and a risk of the process being slowed down sometimes by one single country.

Examples of standards:

1. EN 197 for "Cement" took 16 countries 27 years to process and it is a prescriptive standard (i.e. it sets limitations on the material composition of cements rather than taking into consideration their performance). As such it conflicts with the Construction Product Directive/Regulation.
2. EN 206 for concrete, which prescribes EN 197 cement, took 20 years to process and is NOT harmonized. It thus allows for national additions, which conflict with the basic free internal market in EU.
3. It took EOTA (European Organization for Technical Approval), a "CEN by pass", eight years to accept the outdated French norm to recognise Ground Calcium Carbonate – and then it only recognised it partially.

Concrete is the most used construction material with a disproportional impact on the environment. The implementation of innovations to reduce the impact by "Doing More with Less" is slowed down by the European Standardisation procedures. **The Environmental Technology VERIFICATION methodology is a promising solution addressed by the SUSTCON EPV Eco-Innovation project under the C.I.P of the EU. It is integrated into the "Pantheon Performance" Verification protocol, named after the most sustainable building in the world – the Pantheon in Rome - which was built with concrete that would not have been allowed according to today's standards.**

CONCLUSION:

EN Standards, at least for concrete, are not necessarily based on technology but on the suppliers dominating the market at any time and who obstruct or slow down innovation implementations which they are forced to adapt.

This is demonstrated by, for example, Alkali Activated concrete binders and Energetically Modified Cement; these European innovations are implemented in both Australia and U.S.A., but not in Europe.

Many more innovations are awaiting improvements in the present EU approval methodology.

## Case: Agricultural Technology List

To ease the process of giving environmental approval to farmers who install or start to use new technologies the Danish Environmental Protection Agency has developed a Technology List, where technologies with a documented environmental effect and robust operation can be recorded and no further documentation is needed for obtaining environmental approval. The Danish Protection Agency has initiated a verification programme for agricultural technologies, VERA. This programme is currently operating in Germany, Denmark and the Netherlands and is expected to extend to other EU countries. To be registered on the Danish Technology List a statement of verification under the VERA programme is required.

## Innovation encourages you to apply VERIFICATION

By giving you this open letter we encourage you to investigate whether VERIFICATION of technology performance is relevant in your field. This could boost the use of eco-innovation in your sector and help your regulators to base legislation and regulatory requirements on achievable performance rather than on proved technology.

## How to become involved in accelerating the use of VERIFICATION

If your country is not a member of the EU ETV Steering group and if you consider that you should be involved in the programme, please

- contact the EU ETV Management: [env-etv@ec.europa.eu](mailto:env-etv@ec.europa.eu)
- visit the EU ETV Pilot Programme web page, where you will find details about the programme: [www.ec.europa.eu/environment/etv](http://www.ec.europa.eu/environment/etv)
- get information on how to perform verifications by contacting the head of the Danish ETV programme DANETV, Mette Tjener Andersson, ([mta@dhigroup.com](mailto:mta@dhigroup.com)) from DHI, or visit [www.etv-denmark.com](http://www.etv-denmark.com)
- get involved in using performance verification as a tool in the concrete sector by contacting the SUSTCON EPV eco-innovation project contact person, Boudewijn Piscaer ([b.piscaer@univerde.nl](mailto:b.piscaer@univerde.nl)) from UNIVERDE, or by visiting [www.sustcon.org](http://www.sustcon.org)
- get information on the Danish/Dutch/German verification programme on agriculture, VERA, by visiting [www.veracert.eu/en](http://www.veracert.eu/en)