

MINET

Seeking to provide a reproducible basis for qualifying and quantifying what are essentially 'soft' measurements (subject to human perception and interpretation) is a particularly challenging scientific endeavour. Individual projects in the NEST Pathfinder Measuring the Impossible (Mtl) programme are addressing various aspects of this problem. The MINET project aims to maximise their outcomes by promoting synergy and information exchange, with the longer-term goal of building a broad Europe-wide Mtl community.



Measuring the Impossible deals with the application of objective metrology to holistic quantities and qualities which are perceived and interpreted by the human brain and mind.

Providing a means for reproducible measurement of parameters such as pleasure and pain has important implications in evaluating all kinds of products, services and conditions. In the commercial world, choice is influenced by a host of factors – from naturalness, aesthetics and comfort to security, service and price. Is the smell of a new car appealing? Does this fabric have a luxurious feel? By being able to predict user perceptions and reactions through modelling, companies may be able to save time and resources by meeting the expectations of their customers, without the need for extensive testing.

As its name implies, Measuring the Impossible is a highly challenging field. On the one hand, it requires the cross-linking of related (but hitherto uncoordinated) developments

across a variety of disciplines, embracing the physical, biological, psychological and social sciences. On the other hand, it faces an ever-increasing demand for valid measurement as the basis for decision-making. Moreover, the resultant measuring systems must be comprehensible to human senses that are difficult to model or match using current manufactured sensor systems.

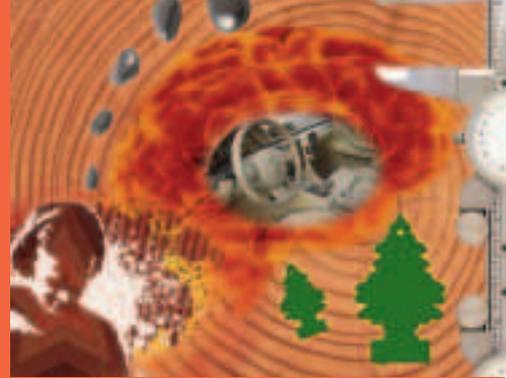
Action at three levels

In a series of Specific Targeted Research Projects (STREPs) funded by the European Union under the NEST Pathfinder programme, researchers are joining forces to explore issues ranging from the emotions aroused by viewing pictures, to the functional/aesthetic qualities of sound.

Specific Support Actions (SSAs) assist these individual efforts by mapping and developing more detailed definitions of the fields in question, assessing development prospects and identifying future trends.



“The barriers are beginning to tumble, and MINET will accelerate the process.”



AT A GLANCE

Official Title

Measuring the Impossible Network

Coordinator

Stockholm University (Sweden)

Partners

- National Physical Laboratory (United Kingdom)
- Unilever R&D (United Kingdom)
- University of Genova – DIMEC (Italy)
- Biometris, Wageningen University and Research Center (The Netherlands)
- Center for Usability Research & Engineering (Austria)
- Helsinki School of Economics (Finland)
- Laboratorio di scienze della cittadinanza (Italy)
- University of Ljubljana (Slovenia)
- SP Swedish National Testing & Research Institute (Sweden)
- Technical University of Berlin (Germany)
- University of Mannheim (Germany)
- Centre National de la Recherche Scientifique (France)
- University of Haifa (Israel)
- Profactor Produktionsforschungs GmbH (Austria)
- Stichting Katholieke Universiteit Brabant – Tilburg University (The Netherlands)
- Fraunhofer – IBMT Institut für Biomedizinische Technik (Germany)
- Technische Universität Dresden (Germany)
- University of Helsinki (Finland)
- Hammel Neurocenter (Denmark)
- Università Vita-Salute San Raffaele (Italy)
- Institut de Recherche et de Coordination Acoustique | Musique (France)

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As a Coordination Action (CA), MINET goes still further in the bid to achieve long-term integration, whereby the whole science of Mtl can become established as a cohesive entity, supporting hard science metrology.

A consortium of 22 partners has been formed for this purpose. Nine of the members are ‘operational partners’, involved directly in the development, organisation and management of the CA. The remaining members are coordinators of projects in the field, who will additionally contribute strongly to, and participate in, the scientific development and information exchanges.

Barriers tumbling

A significant hurdle to be overcome is that Mtl still suffers from the historical division that arose between physicists and psychologists in the middle of the 20th century. The two sides disagreed strongly on the meaning of measurement and the possibility of ‘measuring’ sensory events. This led to parallel developments in measurement science within the two separate camps. Both went on to generate remarkable results, but the lack of communication between them prevented coherent and interactive progress. Often, the same methods were reinvented and promoted under different names, or in slightly different versions.

Today, the barriers are beginning to tumble, and MINET will accelerate the process. At current estimates, almost 1 000 high-profile scientists worldwide are active in the field of soft measurement. Those who are developing the most innovative methods tend to be either specialised basic researchers in particular disciplines, or dedicated particularly to specific areas of application. MINET will bring this disparate group together in a European arena, because the individual national contexts are

simply too narrow to feasibly support such an activity.

Initially, the CA will provide a mechanism that enables NEST project members to cooperate and interact with each other. In a key move to raise their productivity, MINET will set up an online core human network (c-Minet), as part of a dedicated MINET website. Building on this foundation, the partners will go on to initiate a wider sharing of knowledge amongst all interested stakeholders across the EU, as well as actively promote the spread of Mtl awareness among decision-makers and the population at large.

The c-Minet site will later be expanded to involve the evolving European community, stimulate interactive dialogue with the national metrology institutes, and launch a medium for wider scientific communication within what will become a unified ‘e-Minet’ web presence.

MINET will be a European booster of soft measurement science, through academic and application-driven workshops and stimulating sessions at conferences targeting Mtl topics.

Progressive interdisciplinary development of scientific knowledge and science communication will be ensured in creative think-tanks, study visits and training courses for senior researchers. Material produced will include an external Expert Group Report, newsletters and a scientific book on soft measurement and its terminology.

The goal is to have a viable European Mtl community in place by 2009.

The measurement of odour quality is at the head of brain-mind affairs. This project will be the European booster of ‘soft’ metrology.