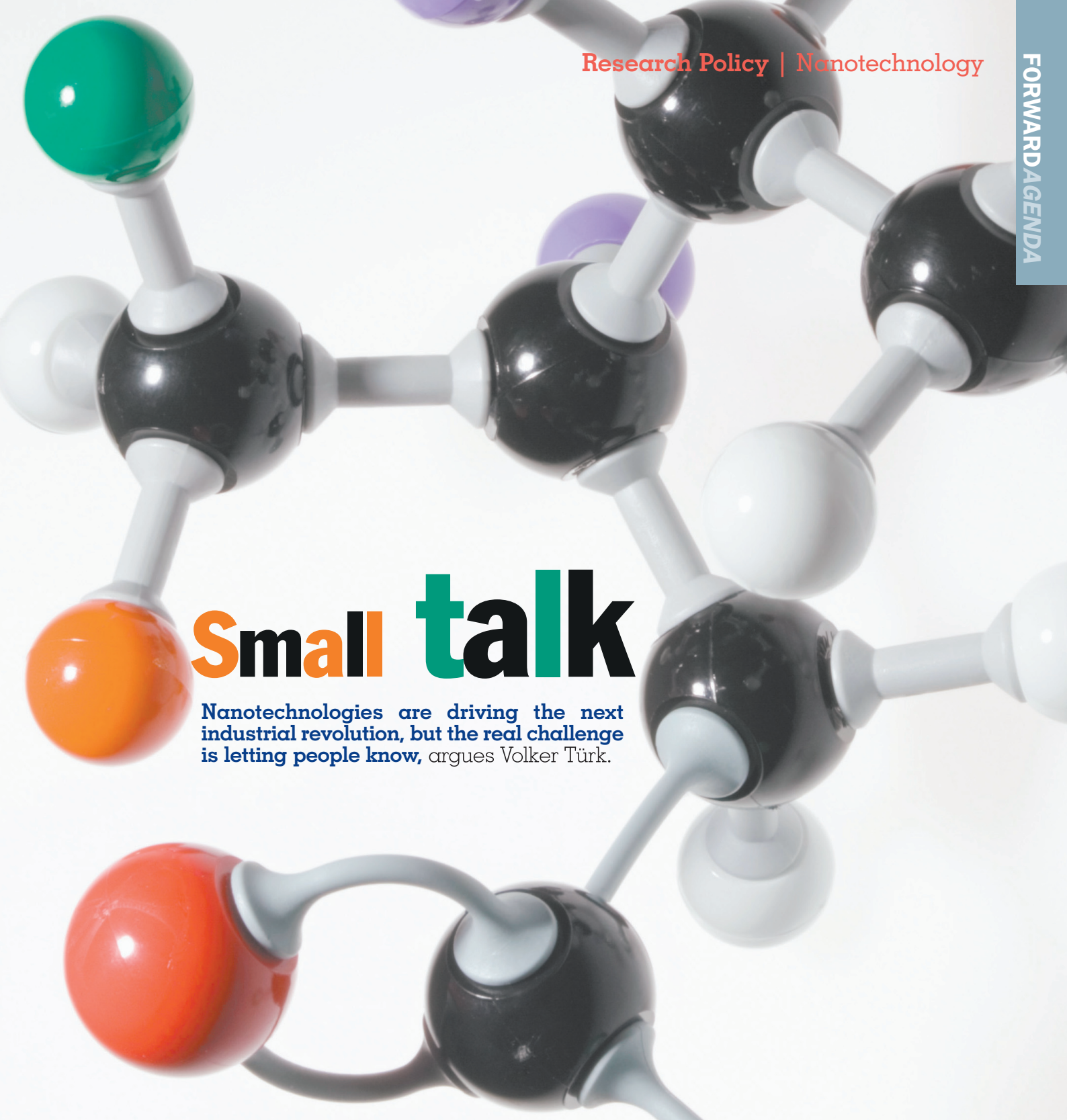

Small talk

Nanotechnologies are driving the next industrial revolution, but the real challenge is letting people know, argues Volker Türk.

The field of nanotechnologies (NT) has attracted widespread attention and funding in recent years. Estimates of the number of NT-based products and applications vary widely, but are generally in the hundreds of billions of dollars. The step from research to industrial applications has been short, and NT products as diverse as sun screens, cosmetics, water- and dirt-repellent textiles or scratch-resistant car paints are already on the market.

While experts expect a great deal from nanotechnology, public awareness of it is still low. The few studies available on the public's perception of nanotechnology reveal that while few people are aware of it, those that are tend to view it favourably. Although Europeans tend to be more sceptical about the potential of NT than people in US, for example, surveys in the UK and Germany show that there is little public perception of risks related to NT. But what determines these perceptions? With the surveys showing little real understanding of NT, they are unlikely to be based on facts, and indeed most reactions to NT seem to be based primarily on feelings.

But while NT applications could provide potential solutions to some of the world's most pressing challenges, they are not without risk. Taking advantage of technological progress while avoiding adverse side-effects and a consumer backlash is a tricky path to tread, which is why the Nanologue project was created. Funded by the European Commission's FP6 research programme, Nanologue brings together researchers, businesses and representatives from civil society from across Europe to support dialogue on the impact of NT on society, and is part of the commission's response to the challenges highlighted in the recent Nanotechnologies and Nanoscience (N&N) Action Plan for Europe.

These include respecting ethical principles and encouraging dialogue with citizens, addressing the environmental and consumer risks of N&N-based products and providing favourable conditions for industrial innovations to ensure that R&D is translated into affordable and safe wealth-generating products and processes.

Nanologue is led by the Wuppertal Institute (Germany) in cooperation with EMPA (Switzerland), Forum for the Future (UK) and triple innova (Germany). Using publications, dialogue sessions and expert interviews as sources, the project aims at establishing an understanding of the ethical, legal and social aspects of NT and communicating this understanding by raising awareness among society in general.

> ***"Taking advantage of technological progress while avoiding adverse side-effects and a consumer backlash is a tricky path to tread."***

The preliminary results of the project have reinforced the need for such an approach. Most researchers and product developers from businesses and universities seem to be aware that research and public discourse on the impact of N&N is an important part of the R&D process. However, they highlight the difficulties of "translating" these often abstract terms and debates into something tangible for their work and have called for a more accessible format for the information.

The potential impact of N&N on society is as broad as the nanoscience sector as a whole. Nanologue has registered concerns over the toxic effects of nanoparticles or the creation of a 'nanodivide' within or between societies, as well as questions about genetic discrimination caused by advanced medical diagnostics or the potential role of NT-applications for future clean energy supplies, among many others.

All this highlights the need for a more selective approach, one that contextualises research and debate by looking at specific applications rather than nanotechnology in general. This also seems to hold true for the debate about the regulatory framework. While many experts appear to question a "general need" for new regulatory approaches, assessing the need on a case-by-case basis appears less controversial.

In response to the call for a more accessible information format, Nanologue plans to develop quick assessment tool for NT-based applications. The tool aims to reduce the risk of market failure for NT-based products caused by unforeseen ethical or social considerations, and should be available online and free-of-charge. It is intended to help companies assess the potential ethical, legal and social benefits and impacts of new NT applications more rapidly and at the very start of the R&D and design phase, allowing them to create a product with a far greater chance of market acceptance. ★

Volker Türk is the Nanologue Project Co-ordinator at the Wuppertal Institute, Germany