



“We don’t want another asbestos drama”

Individual and collective responsibility for nanotechnology

Interview with Tony Musu, European Trade Union Institute

Ineke Malsch, 17 October 2008, postbus@malsch.demon.nl

On 26 June 2008, the executive committee of the European Trade Union Confederation ETUC adopted a resolution on nanotechnologies and nanomaterials. ETUC wants the precautionary principle to be applied to nanotechnologies. Tony Musu is responsible for the working group which prepared this resolution.

Ineke Malsch: Why has the ETUC executive committee adopted this resolution now? Is it part of a more general longer term activity?

Tony Musu: We have been working on nanotechnologies for many years. We are participating in the European funded NanoCAP project together with other trade unions, environmental groups and academia, where we discussed different aspects of nanotechnology. The idea was to develop our own opinions on it. That was the start of our engagement with nano. In parallel, we have started our own ETUC working group on nanotechnology. The members of ETUC who are interested in the issue came together in this working group and prepared the draft resolution which was adopted by the executive committee.

Ineke Malsch: How many members does this working group have?

Tony Musu: Ten to twelve members from different EU countries. It is part of a more general trend. Nanotechnology is increasingly discussed everywhere. The trade unions had to have an opinion on these issues. It is an important issue also for the health and safety of workers who are exposed to those types of materials.

Ineke Malsch: Are the members of the working group from companies or sectors where nanomaterials are already used?

Tony Musu: We have 82 members in 36 European countries. In each country the major trade unions are member of the ETUC. We send an invitation to our members and they send their experts to the working group. They may have very different backgrounds, but most of the time they are working with Environment, Health and Safety or Industrial relations.

Ineke Malsch: Why did ETUC come with the resolution now? Is there a special reason?

Tony Musu: No, it is just because the resolution was ready now. The group worked over one and a half years on a draft. The draft was sent to our members for a round of comments and amendments. Then it was presented to the executive committee meeting of all secretaries general of ETUC members organisations where they adopt resolutions and discuss general policies. It has become the common position of all trade unions in Europe. We represent over 60 million workers. That is quite important.

Ineke Malsch: Are ETUC's member organisations also working on this issue?

Tony Musu: Trade Unions from at least ten or twelve countries work on nano, because they sent their expert to the ETUC working group. Not in all EU countries, but in most they are working on nanotechnology. It is coordinated by the ETUC, but they all have their own activity.

Ineke Malsch: What is ETUC's definition of the precautionary principle? This is a central element of the resolution.

Tony Musu: Yes, it is our central demand that the precautionary principle must be applied to nanotechnology. Our definition is quite linked to prevention, of course. The definition we use is: "in case we have scientific uncertainties about the risks of a technology, to cause damage to human health or the environment, preventive actions must be taken to prevent those risks." For nanotechnology, we are certainly in that situation. There are many uncertainties about the risks they may cause to human health or the environment. This means preventive actions must be taken to avoid those risks. In our resolution we try to give examples, operationalise the principle. It is a general principle and you must always go behind it and describe what must be done. One starting point in our resolution was that in Europe we have many different pieces of legislation that might cover nanomaterials. Those legislations are also built on the precautionary principle. For example the REACH regulation is the major piece of legislation covering nanomaterials. We have many pieces of legislation covering different application sectors. For cosmetics, the cosmetics directive, for biocides, the biocide directive would be applied, and for medicinal products another one. But the general regulation is REACH. REACH is built on the precautionary principle. We want the REACH

legislation to be strictly applied to marketing and use of nanomaterials. In REACH, there is the “no data, no market” principle. That is what we are asking for. The burden of proof is on the producers. They have to prove that substances can be used safely for human health and the environment. For that, they will have to supply data in a registration dossier. When they can't provide data to prove the safe use or when the data are derived from tests that are proven inadequate for nanomaterials, the European Chemicals Agency (ECHA) who manage the registration should refuse to register the substance. If there is not enough data, the registration should be considered not completed and the registration of the substance should be refused. This means the company is not permitted to introduce the substance on the market. That is a very concrete application of the precautionary principle.

What would ETUC consider to be a precautionary approach and how can it be made transparent to workers?

For companies, the precautionary approach means the following. There is a lack of information on the hazards, but still the materials are used and produced on the workplace. Therefore we want workers to be informed that they are using or manipulating nanomaterials and that the hazards are unknown. Then a precautionary approach means that the exposure should be avoided as much as possible. These substances must be considered as very hazardous chemicals. You need to take all preventive measures to avoid exposure of workers. E.g. work in closed systems. That is what a company can do. In the NanoCAP project we have visited and talked to some companies who follow such a responsible approach. They recognise that they don't know the hazards. To avoid the risks they avoid exposure. We like all companies to apply that approach.

Ineke Malsch: You think there are companies who work in the right way?

Tony Musu: Certainly, yes. We met some.

Ineke Malsch: So you want all companies to adopt such best practices?

Tony Musu: It depends what you mean with best practices. All companies should apply a precautionary approach and avoid exposure. The hazards are not known, yet.

Ineke Malsch: What about workers, should they also be trained how to handle nanomaterials?

Tony Musu: Yes, of course, the right to know is very important for workers. They need to know what they are exposed to, what kind of materials they are dealing with and they need to be trained to handle

them safely. Those principles are all in the worker protection legislation we have in the EU. We have the chemical agents' directive, the carcinogens directive. These are part of social legislation to protect workers from chemical risks. Those principles of informing, training workers and involving them in the risk assessment exist and are very important. In the working group we have looked at the main pieces of EU legislation expected to cover nanomaterials and identified loopholes. We have identified loopholes in REACH on marketing and use of chemicals including nanomaterials. We did the same for the worker protection legislation in the chemical agents' directive. For each we have identified the gaps and in the resolution we demand to close those gaps in legislation.

In REACH, the European Commission is claiming that the legislative framework is sufficient to cover nanomaterials. But when you look into the details it is not really the case. In REACH you have a volume threshold. Chemicals are covered by REACH if they are produced or imported into the EU over 1 tonne per year and per producer. We know that the volume criterion is not adequate for nanomaterials. One ton is a huge quantity. Probably the future nanomaterials that will be on the market will be produced less than 1 tonne. The ratio of surface and volume is important for nanotechnology. This is a huge loophole. It might be that today we have 500-600 different products containing nanomaterials on the market. These products contain 10-15 different types of nanomaterials, like titanium dioxide, zinc oxide and nanosilver. Most applications today on the market are made from those 10-15 different materials. Of course, those materials are produced at higher volume. But the situation might evolve and change. Certainly in the future we might have many different nano substances on the market. They will certainly not be covered by REACH, because they are produced below 1 tonne per year. Another loophole is that in REACH, the risk assessment has to be done only from 10 tonnes production per year. Again, it is very unlikely for most nanomaterials to reach 10 tonnes per year. REACH has excellent principles by placing the burden of proof on the producer that the substance can be used safely. But as it stands now, there are loopholes for some nanomaterials.

Coming back to the worker protection legislation, again we have excellent principles, like the mandatory risk assessment the employer has to do for all hazardous chemicals used at the workplace. This applies irrespective of the volume of the chemical. In case of risks he has to avoid those risks, applying risk protection measures. But the responsibility only starts when the employer knows that the substance used is hazardous. It has to be classified by the EU as hazardous in order for the employer to start the risk assessment and take measures. But for nano, we don't know the hazards, so the employer is not obliged to do the risk assessment. That is another loophole of the worker protection legislation. We are very supportive of the principle, but we want the risk assessment to be done

also for all chemicals used for which the hazards are not known. They should be obliged to avoid exposure.

Ineke Malsch: Your resolution is mainly addressed to legislators, not so much to industry?

Tony Musu: Yes, but there is also a part for industry. We can't go into all the details in such a resolution.

Ineke Malsch: What is or could be the role of the EU code of conduct for nanotechnology research (or codes of conduct in general) in your view? Why?

Tony Musu. In the resolution, there is a part about the code of conduct and voluntary initiatives industry can take. It is clear that we welcome those initiatives. It is important that current gaps in legislation are addressed. But we clearly don't want voluntary measures to be developed to replace or delay the adoption of legislation. Voluntary initiatives bind the companies that sign the initiatives, whereas legislation applies to all companies. We do welcome voluntary initiatives. For trade unions it is best if we have both legislation and voluntary initiatives which can help the legislation and go further than is foreseen in the legislation. For the voluntary initiatives developed for nano, we support them only if the following conditions are met:

- Worker representatives must be involved in design of those codes of conduct or voluntary initiatives;
- There must be a monitoring system for the implementation;
- What is unfortunately missing in most codes and initiatives so far is that there are no sanctions in case of non-compliance. We found them a bit light. The efficiency of the system would be higher if sanctions were foreseen.

Ineke Malsch: Does ETUC consider developing its own draft code of conduct as an example?

Tony Musu: No, that is not planned. We do participate in discussions. But we only engage in that work if the conditions I just outlined are met. Otherwise we don't see the usefulness of those codes of conduct. In Germany, our colleagues are involved in discussions and we are monitoring that. At EU level we will only support those codes if the conditions are met.

Ineke Malsch: Who does ETUC hold responsible for the development of nanoscience and nanotechnology? You already mentioned governments and companies. What does being responsible for each of these groups mean in practice?

Tony Musu: The ones who are responsible are the ones who put those products on the market. We support the cornerstone of the REACH system: that the burden of proof is on the producer. The competent authorities are also important because they monitor and are responsible for the sanctions in case of non-compliance.

But there is of course a role for trade unions because we are social partners. We are also interested in the jobs and economic aspects of nanotechnology. We are not against nanotechnology. We just want those new technologies to be developed in a responsible manner. We want the benefits of those nanotechnologies: jobs creation and goods which are beneficial to society, but we want to avoid the risks.

We don't want a new asbestos story to happen again. The asbestos story has been a drama for trade unions. A miracle technology, and at the end we have thousands of deaths. We want to avoid that. Recently, research on carbon nanotubes was published, that they might behave as asbestos. We are very cautious about those products.

Trade Unions are also important to insure the responsible development of those new technologies. We think that's the last part of our resolution: If it is true that nanotechnologies have the ability to change the social and economic and political landscape of our societies, we need to involve all parties, including trade unions, NGO's, consumer groups etc. All interested parties should be included in debate on benefits and risks. We think that if all parties are involved, we will have responsible development of the technologies.

Ineke Malsch: Do you think there are enough opportunities for consumers or environmental groups to join the discussions on nanotechnology?

Tony Musu: It is never enough. We have an increasing number of people who are aware of nano, but it is not enough. Nano today is for experts. The general public is not aware. If you ask people in the street, they don't know about nano. Things are improving, because you can find more and more articles in newspapers, but it is not enough.

Ineke Malsch: Will trade unions also inform workers?

Tony Musu: Yes, the resolution is also circulated in all ETUC member organisations so the members are informed.

Ineke Malsch: What instruments do ETUC and its member trade unions have for taking their own part in the responsible development of nanotechnology?

Tony Musu: There are a number of issues not covered by this resolution. In the future we may have another resolution. The work is not stopped. We will also work on EU and national level to get the legislators to amend the legislation. There may be other pieces of legislation that we may still

have to analyse. We must make sure there are enough legislative tools to cover nanotechnology. We still have a very active working group on nanotechnology. We are active on OECD level and part of a discussion of the European Commission on the application of REACH to nanomaterials.

Ineke Malsch: How can distributed responsibility be made to work, avoiding “organized irresponsibility”?

Tony Musu: It is clear that responsibility may be distributed over several actors. But the nature of each actor’s responsibility is quite different. So each actor should act according to the nature of his responsibility. Industry has the responsibility to ensure the safety of its substance. We each have a role. The government has the responsibility to ensure there is a legislative framework to cover nanomaterials, and to take sanctions in case of non-compliance. The Trade Unions have a responsibility in monitoring what happens on the workplace and showing safe workplaces. There are also roles for NGO’s, consumer organisations and general people. We will have responsible development of nanotechnology if each of these groups acts within its own responsibility.

Ineke Malsch: Is there anything you want to add?

Tony Musu: I want to stress that we don’t want another asbestos story!

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Role in debate on nanotechnology, ethics & society:	The ETUC executive committee has called for applying the precautionary principle to nanotechnologies, 26 June 2008. The main concern is worker (and consumer) safety.
Recent publication:	ETUC resolution on nanotechnologies and nanomaterials, 26 June 2008: ETUC wants precautionary principle applied to nanotechnologies, http://www.etuc.org/a/5159?var_recherche=nano

About ObservatoryNano

The observatoryNANO project is funded under FP7 for four years from April 1st 2008. Its primary aim is to support European decision-makers with information and analysis on developments in nanoscience and nanotechnology (N&N). It will collate and analyse data regarding scientific

and technological (ST) trends (including peer-reviewed publications, patents, roadmaps, and published company data) and economic realities and expectations (including market analysis and economic performance, public and private funding strategies). The ST and economic analysis will be further supported by assessment of ethical and societal aspects, impacts on environment, health and safety, as well as developments in regulation and standardisation. Although much of this work will be performed within the consortium, the project is working cooperatively with other initiatives to ensure that effort is not duplicated and that resource sharing and output are maximised. To date liaisons have been established with international organisations including the EPO, OECD, and ISO, and will continue to be established with other relevant organisations such as European Technology Platforms (ETPs), ERA NETs, and other EU-funded projects.

The observatoryNANO project is led by the Institute of Nanotechnology (IoN) (UK), and includes: VDI Technologiezentrum (DE), Commissariat à l'énergie atomique (CEA) (FR), Institute of Occupational Medicine (IOM) (UK), Malsch TechnoValuation (MTV) (NL), triple innova (DE), Spinverse (FI), Bax and Willems Consulting Venturing (B&W) (ES), Dutch National Institute for Public Health and the Environment (RIVM) (NL), Technical University of Darmstadt (TUD) (DE), Associazione Italiana per la Ricerca Industriale (AIRI) (IT), Nano and Micro Technology Consulting (NMTC) (DE), Swiss Federal Laboratories for Materials Testing and Research (EMPA) (CH), University of Aarhus (DK), MERIT - Universiteit Maastricht (NL), Technology Centre AS CR (CR).

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