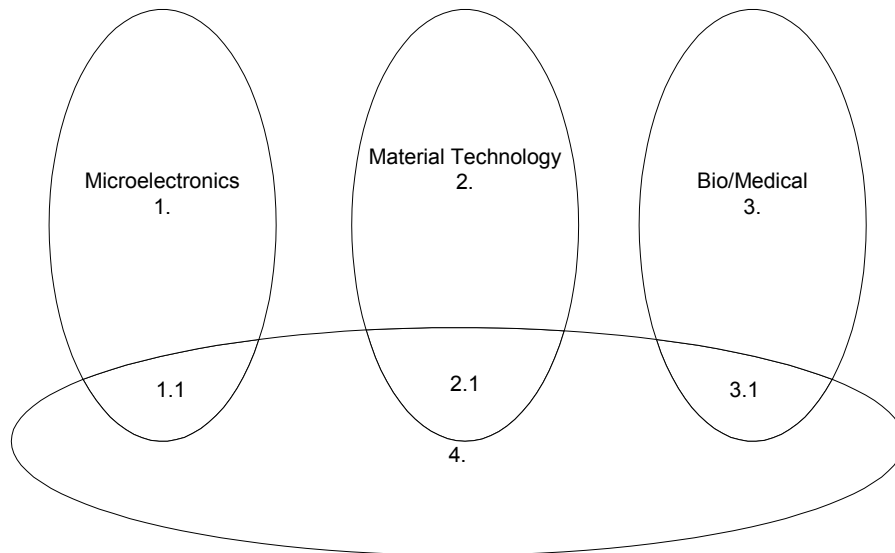


## Dorothy Sutherland Olsen

Definitions of nanoscience and nanotechnology – support a fairly open definition at the moment. It is too early to lock ourselves into definitions which can be misunderstood or misused.

It could be an idea to take up the whole question if there are in fact any advantages of having a common term based mainly on a length scale. I suggest that the most important common area is the common knowledge being developed in several fields and being used to solve problems in others. The concept is a little vague at the moment, but could be useful if one wants to distance oneself from any negative connotations of nanotechnology.



Area 4 being the common knowledge developed by those working at the nanoscale and would actually apply to both nanoscience and nanotechnology. The ovals 1,2 and 3 are examples of industrial areas developing working at the nanoscale and developing their knowledge in this field. The areas 1.1, 1.2 etc represent the knowledge the various industries possess on their relevant fields at the nanolevel. 1.1 etc. are obviously not proportional to the other types knowledge possessed by these industries. The important issue here being – do we want to accelerate the development of area 4? If so what do we need to do with regard to education and research in this area? The issue of interdisciplinary knowledge being of key importance here.

The importance of true interdisciplinary work and the development of interdisciplinary knowledge should be emphasized to a greater extent. It takes a long time to change the way people think and this is probably necessary before the appropriate changes can be made in the education system. Those who achieve this first will, no matter how they do it will probably make the greatest advances in this new area.

The document refers on page 8 to the use of possible roadmaps to accelerate standardization and new development, however the research I have been working on would suggest that it is not that simple to establish a comprehensive road map or indeed any cooperation between competitors in certain industries.

The document lacks reference to any debate of stimulating growth in companies working in this area. Some projects may be too high risk for existing companies to consider investing in them, but may be beneficial to society or to the further development of the industry. At the other end of the scale certain projects could have a potential of high financial gain, but high risk for society. There are also situations where cooperation between competitors is the only way forward; in such a situation it would be advantageous to have a proactive public body that can play a role. The role of government in stimulating growth and at the same

time imposing certain regulations should be included. The latter is included to a certain extent, but without the first the development may be very limited in terms of growth in the UK. This committee has the knowledge and competence to make a clearer statement on these issues and recommend general areas where public finance and support could be made available.

The point made on page 9 about developments occurring in both science and technology in parallel is very important. All modern theories of innovation point to the fact that innovation or technological development does not occur in a linear fashion from science to technology, but is a much more complex and iterative process. This should be taken into account in any plans to influence or monitor future development in this field.

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