

# Minute

PRESENTER: Julian Allwood

MINUTES BY: Thomas Counsell

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**SUBJECT: "What is Sustainable Manufacturing?" Seminar on 16 Feb 2005**

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Institute for Manufacturing  
Mill Lane  
Cambridge  
CB2 1RX  
T 01223 766141  
F 01223 764217  
[jma42@cam.ac.uk](mailto:jma42@cam.ac.uk)  
[www.ifm.eng.cam.ac.uk/sustainability](http://www.ifm.eng.cam.ac.uk/sustainability)

This short note records some of the discussion following the Sustainable Manufacturing Seminar series on "What is Sustainable Manufacturing?" given by Julian Allwood on 16 Feb 2005 in the seminar room of the Institute for Manufacturing. The slides of the presentation may be found at <http://www.ifm.eng.cam.ac.uk/sustainability>.

## Counter Trends

It was pointed out that landfill of waste is becoming less of a problem with improvements in landfill design, that the trend has been for cheaper transportation which reduces the need for localisation, and that the trend has been for less repair of goods highlighted by manufacturer messages of 'no user-serviceable parts inside' and the high cost of extended warranties.

## Motivation

There was concern that big manufacturers are not particularly interested in sustainable manufacturing (Marks and Spencer are an exception) and that therefore there are few drivers for small companies to be interested. The question was raised as to whether it would be possible to create a global manufacturing equivalent of the Kyoto Protocol. Julian argued that policy and capability are distinct, and that he has no answers for policy but many suggestions for capability. The question was raised as to whether sustainable manufacturing should consider the extent to which the goods produced are ethical. Julian suggested that it was important, but that there was a danger of overloading the field with so many issues that progress would be difficult (as might be seen to have happened in the Johannesburg summit). One of the benefits of localising manufacturing might be that it would create a local lobby of people that were interested in the trade-off between environmental, economic and social impact.

## Miniaturisation

The benefits of miniaturisation were pointed out, as it reduces the amount of material and therefore is likely to reduce the energy and environmental impact. The examples of mobile phones and MEMs were given. The question was asked as whether there could be design methods to help with deliberate miniaturisation. The possibility from similar benefits from miniaturising manufacturing as well as products was mentioned and examples were given of SKF making washing machine sized machine tools in collaboration with Cranfield and the possibilities for smaller scale rolling machines. The literature on 'human scale' manufacturing was stated as being small, outside of Schumacher, there was some work on distributed manufacturing and a Masters student at the IfM working on what economies of scales actually exist.