

# Recycling of Mobile Phones

## WEEE directive drives the development of new separation technologies

The mobile phone sector is one of the fastest growing markets in the IT business. For example from 1995 to 2001 the number of German mobile phone users increased by a factor of 15. Due to the fast technological progress and the trend of changing the mobile every second year huge amounts of waste mobile phones are expected during the next few years.

But even when mobile phones become smaller and smaller there is a serious concern about the end-of-life management of these devices. Problems arise from the amount of different materials a mobile consists of and the small masses of the single materials. For both reasons the dismantling and the recovery of recyclables are man-power intensive, time-consuming and expensive processes. In comparison the value of the recovered secondary raw materials is low.

However, the European Directive 2002/96/EC (WEEE = waste electrical and electronic equipment) prescribes reasonable high recycling quotas for mobile phones and forces recyclers of post-consumer electronic equipment to find economical and ecological feasible solutions.

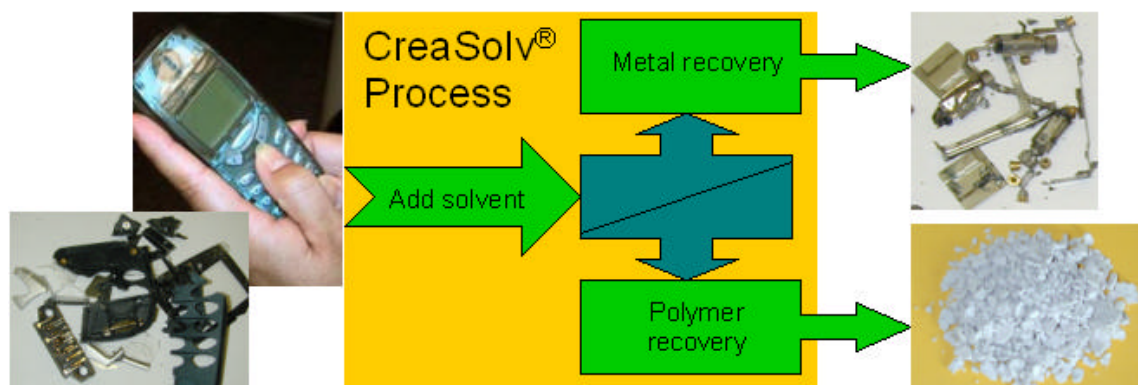
## Economic dismantling of mobile phones by the CreaSolv® Process

The CreaSolv® Process, a polymer recycling process developed by the Fraunhofer-Institute IVV and CreaCycle GmbH, can offer a convenient solution to this problem, because a mobile phone housing is made of a soluble polymeric material (ABS/PC).

The treatment of post-consumer cellular phones with a suitable organic solvent produces two fractions:

1. The dismantled mixture of separated non-housing materials, which can be treated for example with well-known metal recovery technologies
2. A polymer solution from which recycled polymer of high quality can be separated by the CreaSolv® Process.

Since the solvent used in this process is recycled completely within the process and dismantling rates of 1 ton per day can easily be realised the CreaSolv® Process represents a technological convincing and economic solution.



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