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Editorial corner – a personal view
Plastics as target for environmental activists – crisis or challenge?

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Due to the current campaign in the media, the word 'plastic' is used more frequently than ever but unfortunately in a negative context. Our favourite subject sounds nowadays quite bad. Sensational and overstated reports shock the public with headlines, such as 'plastics are killing marine wildlife' or 'plastics cause a planetary crisis'. Companies, that started big projects on analysing the amount of microplastics in oceans and surface water environments, further raise tension in the people with their reports. Although there was not yet any evidence on impacts on human health, it became an emerging area of concern. The highly anxious mental environment does not support the conscious development in this field. Even the financing of important projects can be cut because of the worsening image. How to handle such troublesome circumstances? I think we have to point out, with correct professionalism, the potential consequences of an extensive banning of plastics (favouring wood) on the state of the forests and economy. Such tendencies should be redirected towards more promising solutions and promote the application of recycled and bio-based polymer products. Convincing research results are needed demonstrating that the closed loop systems, enabling the recovery and reprocessing of plastics, are feasible if it is economically well founded. The microfibrous products, such as filters, have to be reprocessed before the end of their lifetime avoiding their transformation to airborne particle. Now it is not the case, therefore the plastic waste utilized worldwide is only the 9% of the total quantity (this ratio is 30% in Europe 25% in China and 9% in USA). Innovative recycled products with upgraded (e.g. flame retarded) performance, nanocompatibilization and optimized stability as well as recyclable (e.g. self-reinforced) biocomposites, that are compostable after several cycles, can convince the decision makers about the chance for handling the 12 billion tonnes plastic waste forecasted for 2050 (https://doi.org/10.1126/sciadv.1700782). Biocompatible additives (such as adaptive flame retardant system of fertilizer activity), accurately pre-programmed for the planned lifecycle, has to be developed for this purpose. Such approaches, however, require much higher level of process monitoring and control comparing to the current state. Stable mass production with continuously varying input is feasible only if the whole tool set of the industry 4.0, including in-line sensors and artificial intelligence, is utilized. Proactive approach helps to take the reins back in the hands of scientists.

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