

## **Global Study of Air Filter Lifetime**

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### **Abstract**

For outdoor applications, the level of air pollution has a direct impact on the lifetime of filters. The variation of air quality is enormous around the world.  $PM_{10}$  (particulate matters less than 10  $\mu m$ ) can vary from  $10 \mu g/m^3$  in pristine environment to over  $150 \mu g/m^3$ . A program to evaluate outdoor air filters was setup to understand the impact of  $PM_{10}$  levels to filter lifetime. Six cities in five countries were involved: United States, Germany, Korea, China and India. It was found that filter lifetime varied from one month to over one year, differing by more than ten times. In some locations, the level and nature of the pollutants were seasonal. Thus, different loading rates were observed at different time of the year.