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Sommario/riassunto	With their high specific strength and stiffness, composites have the potential to significantly lower the vehicle weight, which can have a dramatic effect on improving fuel efficiency and reducing greenhouse gas emissions. For the past decade or so, composites have been experiencing several transitions, including the transition from micro-scale reinforcement fillers to nano-scale reinforcement fillers, resulting in the nanocomposite. The effectiveness of the nano-sized fillers in composites can be explained by one of their unique geometric properties: the length-to-thickness aspect ratio. Therefore, nano-sized fillers have exceptionally higher reinforcing efficiency than the conventional, large fillers. The effectiveness of the nano-sized fillers in composites is also due to their large surface area and surface energy.