Selecting Nanomedicine Projects That Reach Patients: An Industrial Perspective on Clinical Fit, Differentiation, and Scalability

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Abstract

Nanomedicine has produced a wealth of innovative concepts, yet only a small fraction evolve into products that are clinically adopted and commercially sustainable. From an industrial standpoint, this outcome reflects not a lack of creativity, but a lack of selectivity. The central challenge is not how to invent more nanomedicine technologies, but how to identify and prioritize those with a credible path to patients.

This presentation will explore how industry evaluates nanomedicine projects at an early stage, focusing on the criteria that determine whether a concept can realistically progress from laboratory innovation to medical product. Key factors include the existence of a clear and defensible unique selling proposition, alignment with established medical practice and clinical workflows, robustness of the underlying mechanism, and the feasibility of industrial-scale manufacturing and quality control.

Drawing on direct experience in building and partnering a physics-based therapeutic platform in oncology, the talk will highlight common red flags observed in otherwise scientifically elegant projects, as well as the green flags that signal translational potential. By articulating how industrial decision-making intersects with clinical and regulatory realities, this presentation aims to provide a pragmatic framework for improving the success rate of nanomedicine translation.
