What valuation methods suit pre-revenue deep-tech startups

The most suitable valuation methods for pre-revenue deep-tech startups are those that focus on qualitative factors, technology maturity, and potential market impact rather than financial metrics. Investors and founders typically use a combination of these approaches to arrive at a credible valuation estimate. [1] [2] [3] [4]

Key Methods for Valuing Pre-Revenue Deep-Tech Startups

- **Technology Readiness Level (TRL) Framework:**
  By mapping the startup's maturity against industry-standard TRLs, investors gauge development progress, risk, and future commercial potential. Each stage of advancement carries a different risk and value multiplier, making TRL especially relevant for deep-tech where technical validation is crucial. [4] [1]
- **Berkus Method:**
  Assigns monetary value to five key factors—sound idea, prototype, management team quality, strategic relationships, and product rollout—with caps for each, resulting in a structured, qualitative valuation (often up to $2–2.5 million). [2] [5] [6]
- **Scorecard Valuation Method:**
  Benchmarks the startup against comparable ventures in the same sector, adjusting the average sector valuation based on strengths of team, market size, product/tech, and more. [5] [7] [2]
- **Risk Factor Summation Method:**
  Assesses various risk factors—technology, market, management, funding, competition—and factors them into the valuation. [5]
- **Venture Capital (VC) Method:**
  Calculates the target exit value based on the future market, technological success probability, and anticipated commercial adoption, then works backward to determine pre-money valuation. [2] [4] [5]
- **Real Options and Predictive Tech Modeling:**
  Treats investment rounds as options with flexible timelines and uses algorithms to estimate market trajectory, regulatory success, and IP defensibility. [4]
- **Discounted Cash Flow (DCF):**
  Projects future cash flows far ahead and discounts them to present value with sensitivity analysis and higher risk weights; often paired with qualitative methods for deep-tech. [8] [9] [10]

Practical Considerations

- Most investors use several methods and triangulate a valuation range, relying heavily on expert judgment, technical milestones, and comparables. [3] [4] [5]
- Deep-tech startups may also benefit from using scenario analysis, team and technology scoring, and customized frameworks that reflect their unique commercialization timeline and risk landscape. [8] [4]
- Direct financial metrics (revenue multiples, EBITDA) are generally not reliable at this stage, so qualitative indicators and progress toward market/technology readiness are weighted more. [1] [8] [4]

These frameworks ensure that valuation emphasizes both present technology strength and future commercial possibility, making them ideal for deep-tech startups yet to achieve revenue. [1] [8] [2] [4] [5]

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