

Traditional valuation methods **cost, market, and income** approaches are robust and globally accepted but often inaccessible to inventors and startups due to their complexity and dependence on detailed financial data and projections. This makes quick or self-assessed valuation difficult, especially at early innovation stages.

Every technology follows a journey of maturity known as the **Technology Readiness Level (TRL)**, a globally recognized scale used to measure technical

progress. Yet, despite its widespread use, TRL has rarely been tied directly to economic value. This gap leaves innovators without a clear way to express how technical readiness translates into financial worth.

The **TRL-based valuation framework** bridges this gap by integrating standard valuation logic with measurable readiness and performance indicators. It simplifies the valuation process using practical, evidence-based parameters that align with global standards such as WIPO, OECD,

International Valuation Standards (IVS), and ICAI Valuation Guidelines.

This approach allows inventors, research institutions, and policymakers to perform **indicative valuations** without requiring deep financial expertise. In essence, the **"Metrics That Matter"** framework transforms TRL from a scientific indicator into an accessible economic measure, democratizing valuation and bringing it closer to the creator.

**TRL-IP-Economic Interpretation Matrix**

TRL Level	Technology Readiness	IP Perspective	Indicative Economic Value
1-2	Basic research; concept not tested	Idea stage; novelty uncertain	Minimal economic potential
3-4	Proof-of-concept; lab validation	Patent defensibility emerging	Early-stage value; seed or grant eligibility (~1-10%)
5-6	Prototype tested in relevant environment	Expanded IP coverage; international filing possible	Growing investor interest (~15-40%)
7-8	Demonstrated in operational setting; ready for certification	IP positioned for enforcement/licensing	High market confidence (~50-80%)
9	Fully deployed and performing in market	Mature IP; revenue-driven valuation	Maximum commercial value (90-100%)

**Core Framework**

At the heart of this methodology lies a straightforward valuation expression: **Ambastha Readiness Valuation Framework (ARVF)**

$$\text{Technology Value (TV)} = \text{Base Value (BV)} \times \text{TRL Multiplier (TRL\_M)} \times \text{Market Factor (MF)} \times \text{IP Strength Factor (IPF)}$$

**Parameters and Purpose**

Parameter	Purpose	Represents
<b>Base Value (BV)</b>	Establishes the foundation	The R&D cost or investment already made to reach the current stage
<b>TRL Multiplier (TRL_M)</b>	Measures readiness	Indicates how mature or reliable the technology is (ranging from 0.05 to 1.0)
<b>Market Factor (MF)</b>	Reflects opportunity	Captures market demand, policy relevance, and scalability (ranging from 0.5 to 3.0)
<b>IP Strength Factor (IPF)</b>	Evaluates protection	Weighs how strong, broad, and defensible the IP rights are (ranging from 0.8 to 2.0)

**MedTech Innovation: Illustrative Example**

**Technology: Smart Orthopedic Implant with Embedded Biosensors**

Inputs:

Base Value (BV): 80 Lakhs

TRL Level: 6 → TRL\_M = 0.25

Market Factor (MF): 1.8 (high clinical relevance and patient monitoring potential)

IP Strength Factor (IPF): 1.2 (secured device and process patent)

Valuation:

$$TV = 80,00,000 \times 0.25 \times 1.8 \times 1.2 = 43,20,000$$

**Interpretation:**

At TRL 6, the implant has reached a validated prototype stage, showing moderate market visibility and defensible IP protection. With further clinical validation and regulatory approval, its valuation could increase threefold by TRL 9, aligning with full commercialization and widespread clinical adoption.

The TRL-based valuation model brings simplicity, transparency, and logic to technology assessment. By linking readiness with economic worth, it empowers innovators and policymakers to communicate value in measurable terms, ensuring a clearer path from invention to market impact.

For detailed study, please refer to the White Paper "Metrics That Matter."



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The framework has been conceptualized by **Lalit Ambastha**, a **Certified Licensing Professional (CLP) and Intellectual Property Strategist**.

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