

## Patents: Measuring Innovation

Section 101 of Title 35 United States Code states

*Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.*

Because innovation is the (commercial) realization of invention<sup>1</sup>, this Section 101 of Title 35 is helpful in measurement because (a) it directs our attention to the purpose, which is to deliver something useful and because (b) the categories *machine, manufacture, composition of matter* describe classes of useful objects while the category *process* generally captures commercial cost and its reduction.

Therefore innovation, as defined by the combination of invention and realization, can be captured by the ratio

$$\mathbf{p/c}$$

Where **p** is the useful performance<sup>2</sup> of a *machine, manufacture or composition of matter* (as perceived by its user at time of purchase) and **c** is the unit cost of (commercial) delivery of the useful performance of a *machine, manufacture or composition of matter* to that user.

**p/c** can be enumerated from data collected in DINTEC™

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<sup>1</sup> Including inventions that do not necessarily satisfy the patentability ‘*conditions and requirements of this title*’.

<sup>2</sup> also known to economists as ‘quality’.