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This discussion focuses on the conceptual principles and the practical applications of the cost approach in ad valorem property-tax-related intellectual property valuations.

Intellectual Property Valuations *and* Unit Valuation Principle Assesments

VALUATION

analysts ("analysts") are often called on to value intellectual property for various state and local taxation ("SALT") purposes. Many taxing jurisdictions apply the unit principle (sometimes called the utility principle) of property valuation to assess certain types of industrial and commercial property for ad valorem SALT purposes. The unit principle of property valuation values all of the taxpayer's property collectively, as a simple bundle (or "unit") of operating assets. This principle of property valuation is particularly applicable for taxpayer operating property that is physically, functionally, or economically integrated. Utility-type taxpayers are often assessed for property tax purposes based on the unit valuation principle. Such taxpayers may include telecom companies, electric generation or distribution companies, gas distribution companies, interstate and intrastate pipelines, airlines, railroads, and others.

The unit principle of property valuation is not applicable exclusively for centrally assessed utility-type taxpayers. Many local taxing jurisdictions apply the unit principle of property valuation to value such locally assessed properties as oil refineries, marinas, mines, CATV systems, golf courses and country clubs, racetracks, sports and entertainment stadiums, hospitals and other health care facilities, and other types of property. The unit principle of property taxation is efficient and effective for taxing jurisdictions that assess all taxpayer operating property (that is, both tangible and intangible property). In taxing jurisdictions that only assess real estate and tangible personal property, the unit valuation principle value indication has to be adjusted—to exclude the value of any taxpayer intangible personal property that is exempt from property taxation. One category of such taxpayer intangible personal property is intellectual property. Accordingly, analysts may be asked by such taxpayers (or by such taxpayer's legal counsel) to value the taxpayer's intellectual property. The objective of such an appraisal is to estimate the value of the taxpayer's intellectual property included in the assessor's total unit value. Based on such an appraisal, the intangible property value can be subtracted from the value of the taxpayer's total unit of operating property. The remainder of that subtraction procedure is the value of the taxpayer's tangible property subject to property tax in the subject taxing jurisdiction.

For purposes of this SALT discussion, intellectual property includes patents, trademarks, copyrights, and trade secrets. This discussion encompasses all four categories of taxpayer intellectual property. It is noteworthy that most of the valuation methods and procedures—and illustrative examples—included in this discussion may also be applicable to other categories of general intangible personal property. Analysts typically apply income approach and market approach valuation methods in the development of (and in the reporting of) SALT-related intellectual property valuations. Typically, these analysts often have experience and expertise with regard to the generally accepted income-based and market-based valuation methods and procedures. These analysts (and the taxpayer property owner/operator and the taxpayer's legal counsel) often have less experience and expertise with regard to the application of cost-based valuation methods and procedures. Therefore, this discussion focuses on the conceptual principles and the practical applications of the cost approach in ad valorem property-tax-related intellectual property valuations.

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Intellectual Property Valuation

The valuation (and, particularly, the cost approach valuation) of intellectual property is not at all unique to property tax compliance, appeals, or litigation. There are numerous non-property-tax-related situations in which analysts are asked to develop and report intellectual property—and other intangible personal property—valuations. These non-property-tax-related intellectual property valuation situations include:

1. assisting in the intellectual property sale (or other transfer) transaction pricing determination;
2. assisting clients with regulatory compliance;

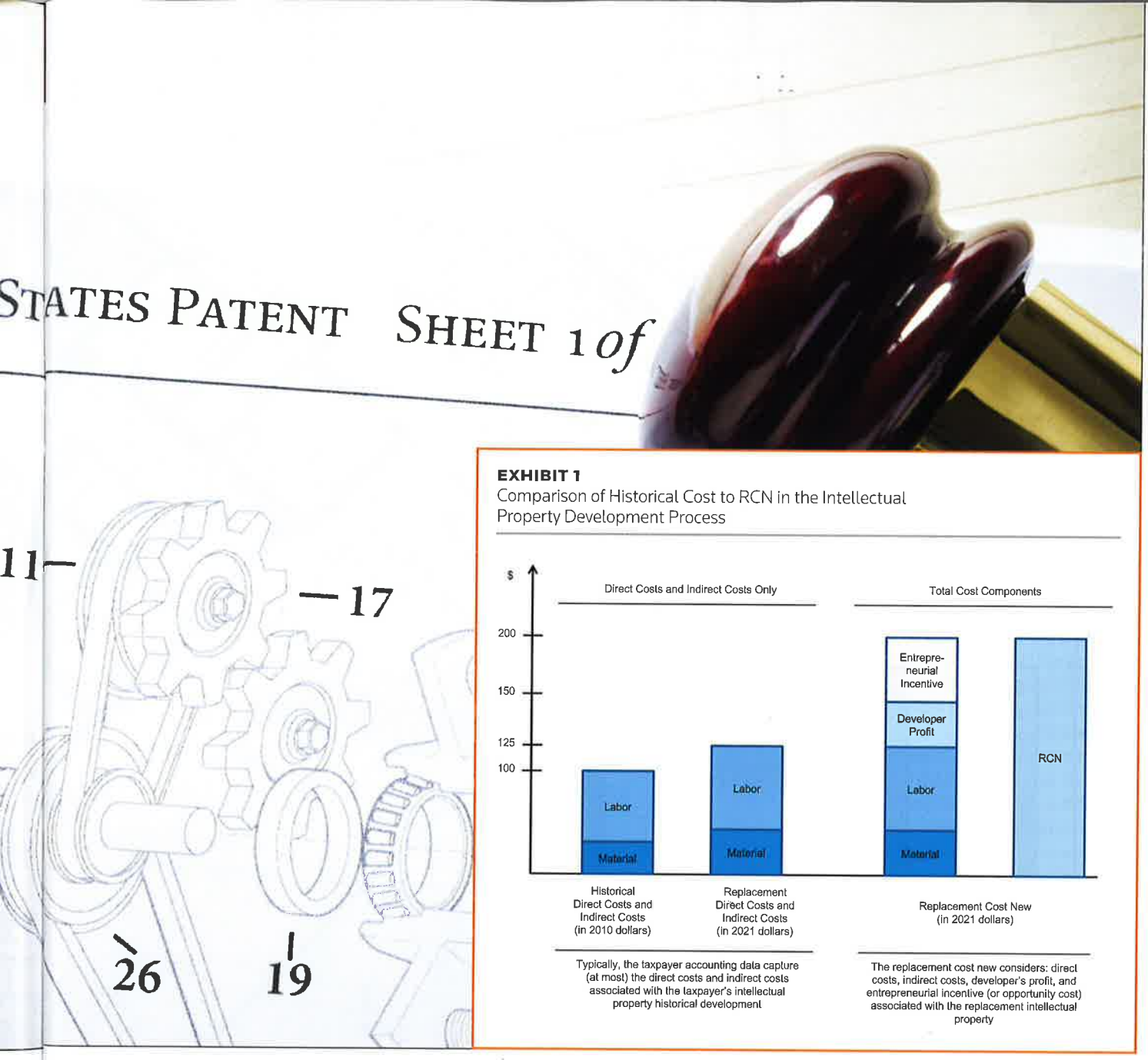


EXHIBIT 1
Comparison of Historical Cost to RCN in the Intellectual Property Development Process

3. assisting with income and estate tax planning, compliance, and controversies;
4. preparing fair value measurements for various financial accounting purposes;
5. preparing collateral value appraisals for intellectual property asset-based financing;
6. appraising the intellectual property component of an asset-based approach business valuation analysis;
7. structuring an intellectual property use license or other commercial exploitation agreement;
8. participating in an intellectual property license fee (royalty rate) negotiation;
9. measuring intellectual property damages related to infringement, breach of contract, and other forensic analysis and dispute resolution; and
10. assessing the prudent amount of intangible property insurance and preparing business interruption insurance claims.

As indicated in the American Institute of Certified Public Accountants ("AICPA") Statement on Standards for Valuation Services ("SSVS"), Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset, there are three generally accepted intellectual property (and other intangible property) valuation approaches:

1. The income approach
2. The market approach
3. The cost approach

Most analysts (and taxpayer property owners and legal counsel) are generally familiar with the application of the income approach and the market approach intellectual property valuation methods. These generally accepted valuation methods include the multiperiod excess earnings method, the capitalized excess earnings method, the profit split method, the relief from royalty method, the sales comparison method, and several other methods. Unlike real estate and tangible personal property appraisers, however, analysts often have less experience and less expertise in the application of the cost approach intellectual property valuation methods. Accordingly, this discussion focuses on the conceptual principles of—

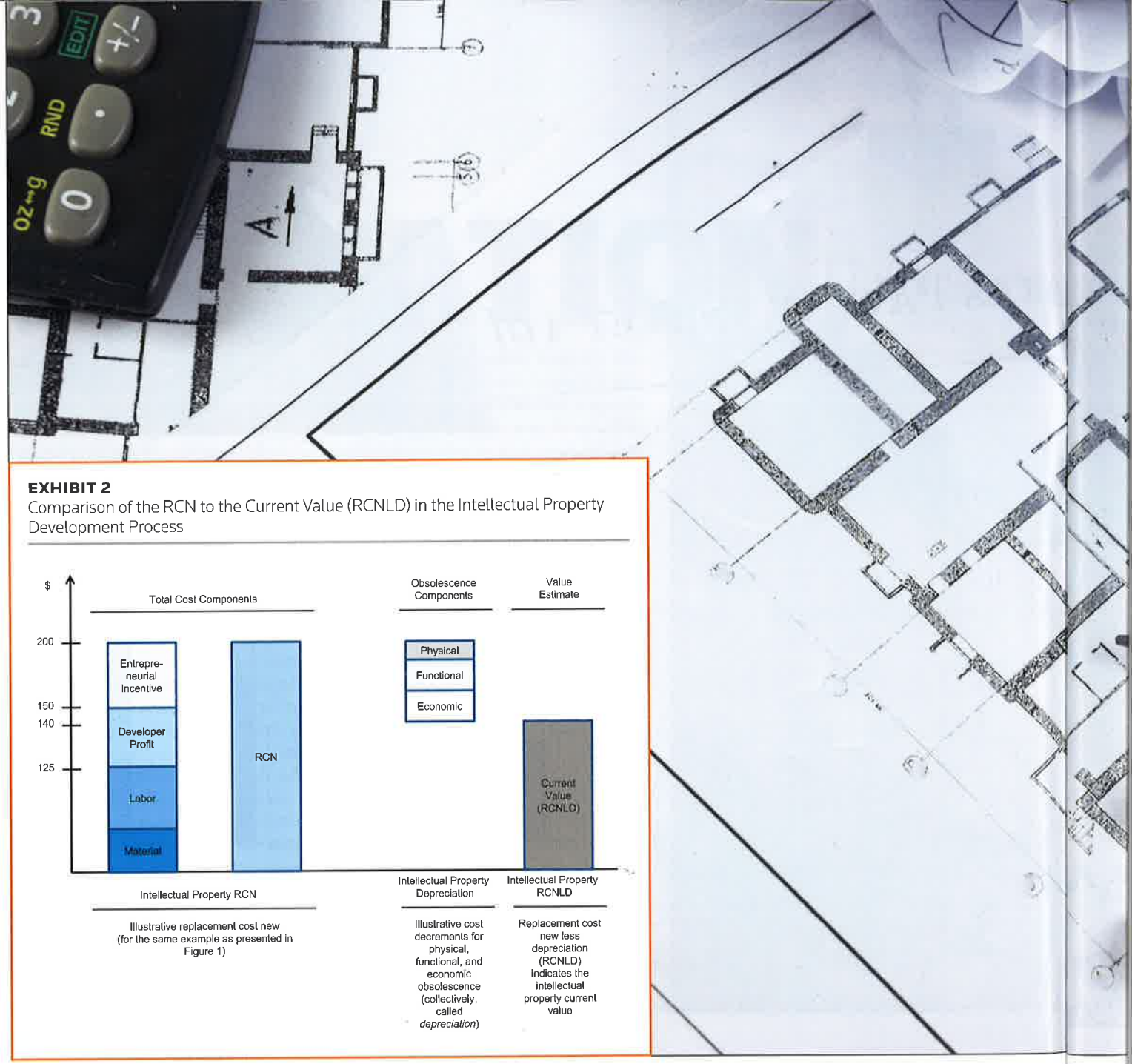


EXHIBIT 2
Comparison of the RCN to the Current Value (RCNLD) in the Intellectual Property Development Process

and the practical applications of—intellectual property cost approach valuation methods. This discussion focuses on such valuations within the context of property tax compliance, appeals, and litigation with regard to unit principle property valuations.

This discussion summarizes best practices related to the application of the cost approach to intellectual property valuation. This discussion also describes a theoretical framework for the property-tax-related intellectual property valuation.

Intellectual Property Valuation Approaches and Methods. For intellectual property valuations developed for property taxation purposes—or for any purpose—the analyst typically selects the particular valuation approach or approaches that:

1. are supported by the greatest quantity and quality of available data;
2. best reflect the actual transactional negotiations of market participants in the intellectual property owner/operator's industry;
3. best fit the particular characteristics of the subject intellectual property, such as its use and its age; and
4. are most consistent with the practical experience and professional judgment of the individual analyst.

Within each generally accepted intangible property valuation approach, there are several generally accepted valuation methods that the analyst may consider. Further, within each intangible property valuation method, there are various procedures that the analyst may perform. To conclude an intellectual property value indication, the analyst develops valuation procedures within a valuation method and valuation methods within a valuation approach. If, after performing the intellectual property valuation approaches, methods, and procedures, the analyst provides several value indications, then the analyst considers and reconciles the various value indications. This process of reconciling alternative value indications results in the

final intellectual property value conclusion.

Cost Approach Fundamental Principles. The economic principle of substitution is fundamental to any cost approach valuation. That is, the value of a fungible intellectual property is influenced by the cost to create a substitute (typically, a new) intellectual property. All cost approach property valuation methods apply a comprehensive definition of cost. Such a definition of cost typically includes consideration of an opportunity cost during the intellectual property development stage. After considering all cost components, the value of the substitute intellectual property should be adjusted in order to make the hypothetical (new) intellectual property more comparable to the actual (seasoned) intellectual property. In property appraisal terminology, such an adjustment to the cost measurement (as in, a decrease in value) is referred to as depreciation. Appraisal depreciation should not be confused with accounting depreciation.

Some analysts (and taxpayer property owners and legal counsel) erroneously believe that the cost approach relies exclusively on historical information. For example, one misinterpretation is that the cost approach should be based on the accounting book value of the taxpayer's intellectual property. This misconception implies that the intellectual property value should be calculated based on the property's historical cost—adjusted for any accounting-based accumulated amortization or impairment recognition. Analysts (and taxpayers and legal counsel) should recognize that cost approach valuation methods are forward-looking estimates. For example, the expected cost of a developing a new intellectual property typically involves estimates of developer's profit and entrepreneurial incentive. Such considerations typically result in a value indication that has little resemblance to the historical-cost-based accounting book value of the taxpayer's intellectual property.

Not all intellectual property is fungible. Legally, some intellectual property is unique and, therefore, cannot be replaced. For intellectual property that is considered to be unique, a substitute or replacement intellectual property may not actually be available at any cost. In such an instance, the cost approach is still applicable to the intellectual property valuation. This is because the cost approach involves the analysis of a hypothetical intellectual property. In developing the hypothetical analysis, the analyst (and the cost approach methodology) assumes that the taxpayer's actual intellectual property does not exist.

In the application of the cost approach, the hypothetical (new) intellectual property does not compete with the actual intellectual property. This is because, in the hypothetical cost approach scenario, the actual (seasoned) intellectual property does not exist. In a cost approach analysis, the actual (or seasoned) intellectual property is "assumed away." The actual taxpayer intellectual property is assumed not to exist. The assumed hypothetical (new) intellectual property never exists in the same space as the actual "assumed away" intellectual property. In the development of the intellectual property valuation, the cost approach considers the cost to replace the utility of the actual intellectual property. The application of the cost approach assumes that the actual taxpayer's intellectual property does not already exist. Real estate appraisers call this assumption the greenfield premise. Based

on the assumed greenfield (or empty field) premise, the taxpayer's building and improvements are assumed not to exist. The real estate appraiser faces an undeveloped greenfield (as in, a vacant site) in the appraiser's application of the cost approach analysis. In the intellectual property valuation, the replacement intellectual property provides the same utility as the actual (seasoned) intellectual property. Because the analyst assumes a greenfield, the hypothetical (new) intellectual property does not infringe on the actual (seasoned) intellectual property.

An FCC license may be an example of a fungible intangible property. A buyer may refuse to accept the seller's asking price for, say, an FCC broadcast license. Instead, the buyer can go to the marketplace (or to the FCC) and buy an identical substitute license. Even though there is really only one (the actual) license, the cost of the hypothetical alternative—or substitute—license is relevant to the valuation of the actual FCC license. Accordingly, the cost approach may be a relevant valuation approach for taxpayer intellectual property that is not fungible. In the case of a patent, the willing buyer may buy a functionally similar patent or develop a new non-infringing invention. Let's assume this non-infringing invention results in a substitute patent. An identical substitute patent would by definition infringe on the actual patent. However, the actual (or seasoned) patent is "assumed away." In the application of the cost approach, the analyst considers the cost for a willing buyer to develop a non-infringing substitute with the equivalent utility to the taxpayer's actual patent. Accordingly, the cost approach may be applied in the patent—or similar intellectual property—valuation. This is because the actual invention is "assumed away."

Application of the Cost Approach. Cost approach valuation methods are particularly applicable in the valuation of a recently developed intellectual property. With a relatively new intellectual property, the taxpayer's development cost and development effort data may still be available (or can be accurately estimated). Cost approach valuation methods are also particularly applicable to the valuation of (1) an in-process intellectual property asset and (2) a noncommercialized, defensive intellectual property. An example of a noncommercialized intellectual property is a patent or a trademark held primarily for its strategic defensive use (to ensure that the taxpayer's competitors cannot own or operate the taxpayer's patent or trademark, for instance).

When applying the cost approach, the analyst should realize that intellectual property value does not derive solely from the current cost measure. Rather, intellectual property value derives from:

1. the current cost measure (however defined) less
2. appropriate allowances for all components of appraisal depreciation and obsolescence.

Reasons to Apply the Cost Approach. For the most part, the analyst's selection of the intellectual property valuation approach or approaches is a process of elimination. In any property-taxation-related valuation, the analyst usually attempts to apply all valuation approaches for which reliable data are available. When there are sufficient reliable data with which to develop all three valuation approaches, the analyst typically applies all three approaches. When there are sufficient reliable data with which to develop only two valuation approaches, the analyst develops

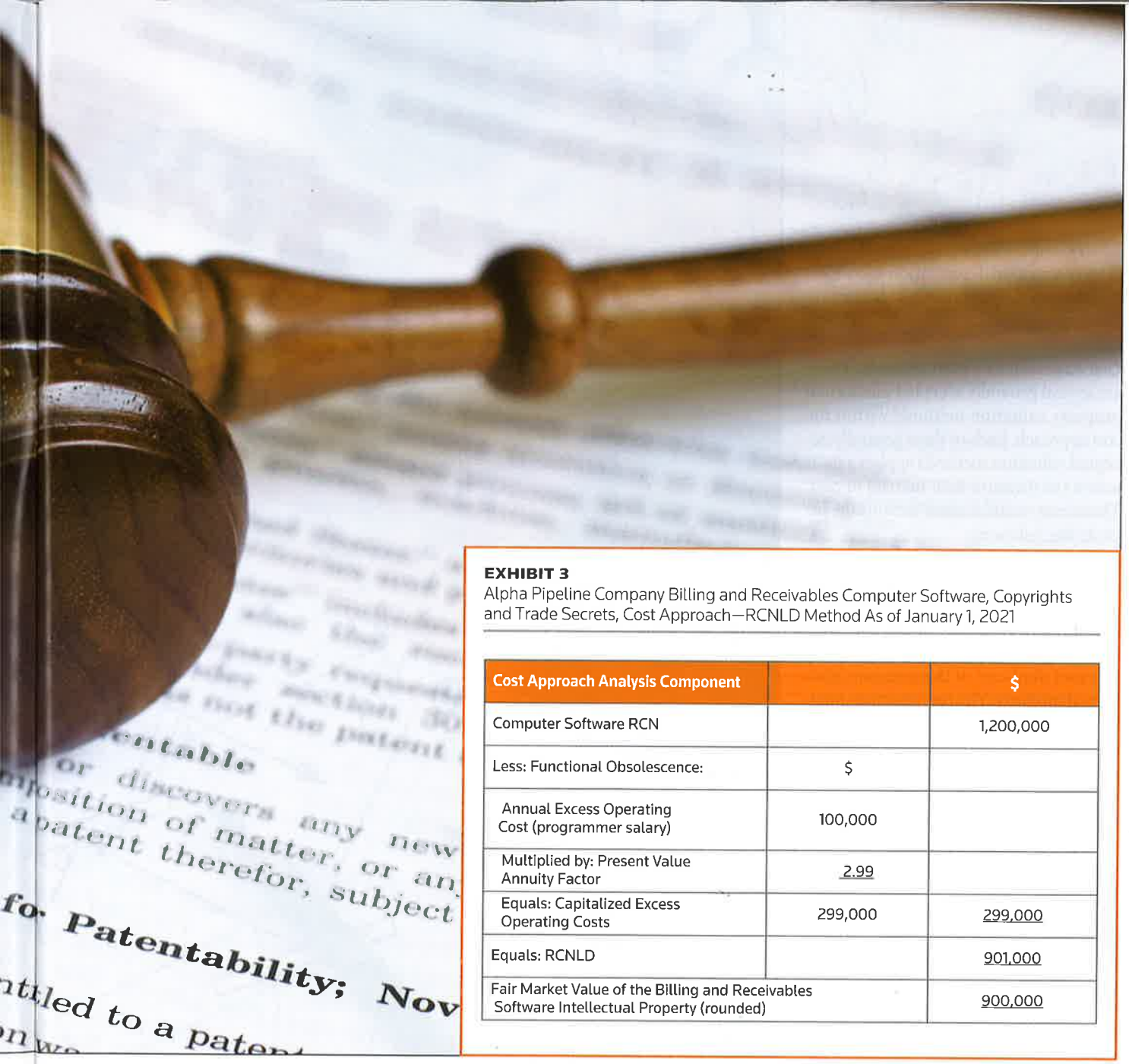


EXHIBIT 3
Alpha Pipeline Company Billing and Receivables Computer Software, Copyrights and Trade Secrets, Cost Approach—RCNLD Method As of January 1, 2021

Cost Approach Analysis Component		$
Computer Software RCN		1,200,000
Less: Functional Obsolescence:	$	
Annual Excess Operating Cost (programmer salary)	100,000	
Multiplied by: Present Value Annuity Factor	2.99	
Equals: Capitalized Excess Operating Costs	299,000	299,000
Equals: RCNLD		901,000
Fair Market Value of the Billing and Receivables Software Intellectual Property (rounded)		900,000

those two approaches. Similarly, when there are sufficient reliable data with which to develop only one valuation approach (for example, the cost approach), then the analyst develops that one valuation approach only. If sufficient guideline sale or license transaction data are not available or if the intellectual property is not the type of property that generates a measurable amount of income (however defined), then the analyst may have to rely on the application of the cost approach by default.

The development of the cost approach is particularly applicable to the following types of taxpayer intellectual property:

1. Intellectual property that are recently developed (as in, relatively new)
2. Intellectual property that are fungible or may be easily exchanged or substituted
3. Intellectual property for which the taxpayer's historical development cost data are still available
4. Intellectual property that are operated by a taxpayer with the expertise to assist the analyst in the estimation of a current development cost
5. Intellectual property that are operated by a taxpayer with the expertise to assist the analyst in the estimation (a) of an expected useful economic life ("UEL") and (b) of obsolescence
6. Intellectual property that are used (or used up) in the production of income but which themselves do not produce any income; examples of such contributory intellectual property include trade secrets—in the form of product formulae, employee or workstation training/operator manuals, operating procedures, computer software, the proprietary knowledge of an assembled workforce, and so forth (such contributory intellectual property types are sometimes referred to as "back room" intellectual property)

When considering the application of the cost approach, the analyst considers whether there are sufficient reliable data available in order to estimate both:

1. the intellectual property current cost metric (such as replacement cost new or reproduction cost new) and

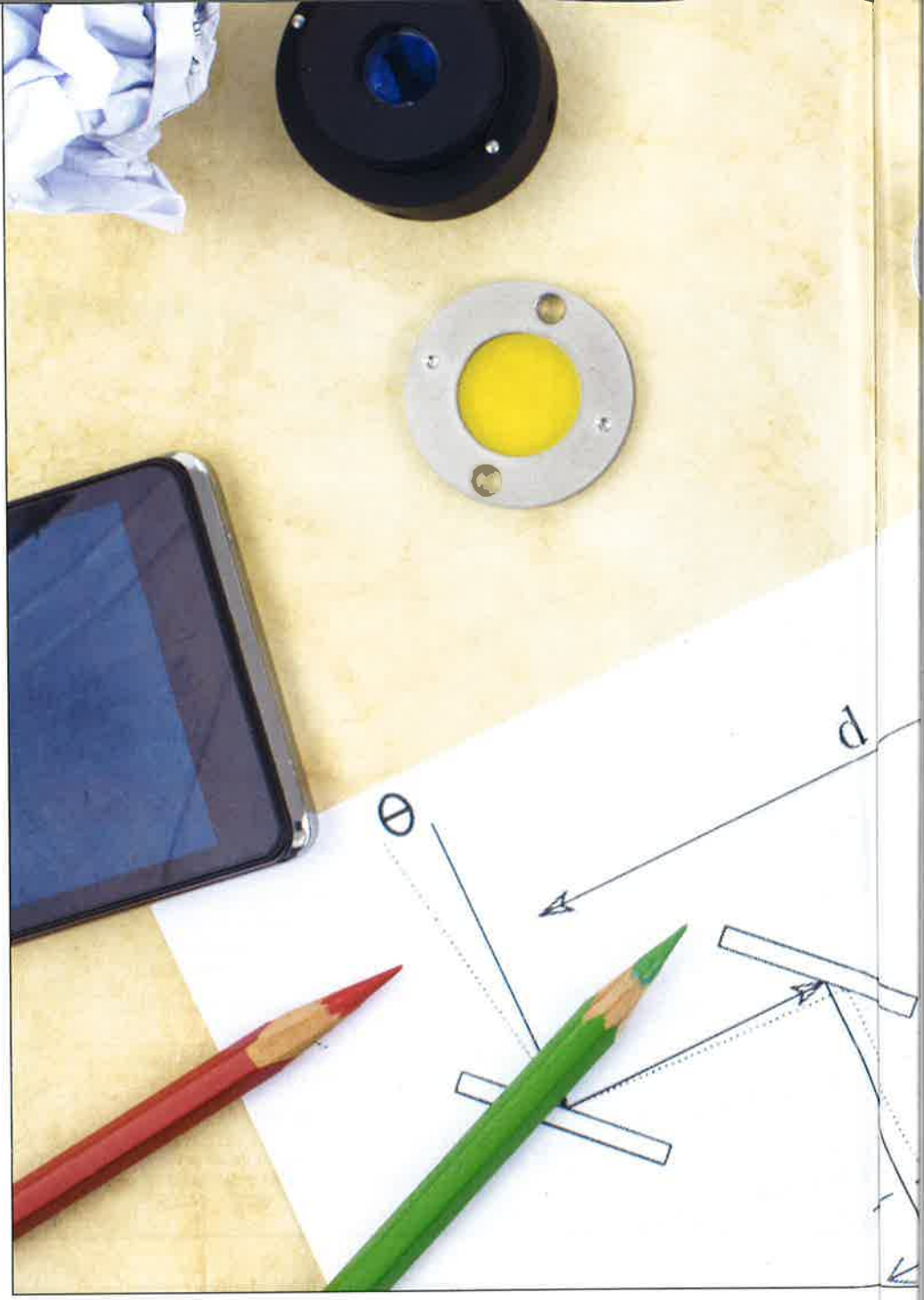
2. all components of intellectual property appraisal depreciation and obsolescence (including economic obsolescence).

Cost Approach Valuation Methods. There are several generally accepted intellectual property valuation methods within the cost approach. Each of these generally accepted valuation methods applies a definition (or measurement metric) of cost. These cost measurement definitions include the following:

1. Reproduction cost new
2. Replacement cost new

Reproduction cost new ("RPCN") measures the total cost, in current prices as of the date of the analysis, to develop an exact duplicate of the taxpayer intellectual property. The reproduction intellectual property is developed using the same types of materials (if any) and labor, development standards, design, layout, and quality of workmanship as the taxpayer intellectual property. The reproduction intellectual property includes all of the inadequacies, super-adequacies, and other indicia of obsolescence (if any) of the taxpayer intellectual property. The RPCN cost measurement metric is often applied (1) when the taxpayer intellectual property is fairly new and (2) when the taxpayer intellectual property could still be considered a reasonable replacement for itself.

Replacement cost new ("RCN") measures the total cost, in current prices as of the date of the analysis, to develop a new intellectual property having the same functionality or utility as the actual (seasoned) intellectual property. Functionality is an engineering concept that means the ability of the intellectual property to perform the task for which it was designed. Utility is an economics concept that means the ability of the intellectual property to provide an equivalent amount of satisfaction to the taxpayer. The replacement intellectual property is developed using modern materials (if any) and labor, development standards, design, layout, and quality of workmanship. The replacement intangible asset typically excludes all curable inadequacies, super-adequacies, and obsolescence that may be present in the taxpayer's intellectual property. The RCN cost measurement metric is more often applied (1) when the intellectual property is fairly old and (2) when the actual (seasoned) intellectual property would no longer be considered a reasonable replacement for itself.



There are other cost measurement definitions that may also be applicable to an intellectual property cost approach valuation. Some analysts consider a measure of cost avoidance as a cost approach method. However, in the appraisal literature, a cost avoidance valuation method is more appropriately categorized as an income approach valuation method. Some analysts apply trended historical cost as a cost measurement metric in the application of the cost approach. In this method, the historical development costs are identified, these historical costs are trended to the valuation date by applying an appropriate inflation-related index factor.

This trended historical cost measurement metric is particularly applicable when:

1. the taxpayer's intellectual property is relatively new or
2. the taxpayer has fairly complete records related to the historical development

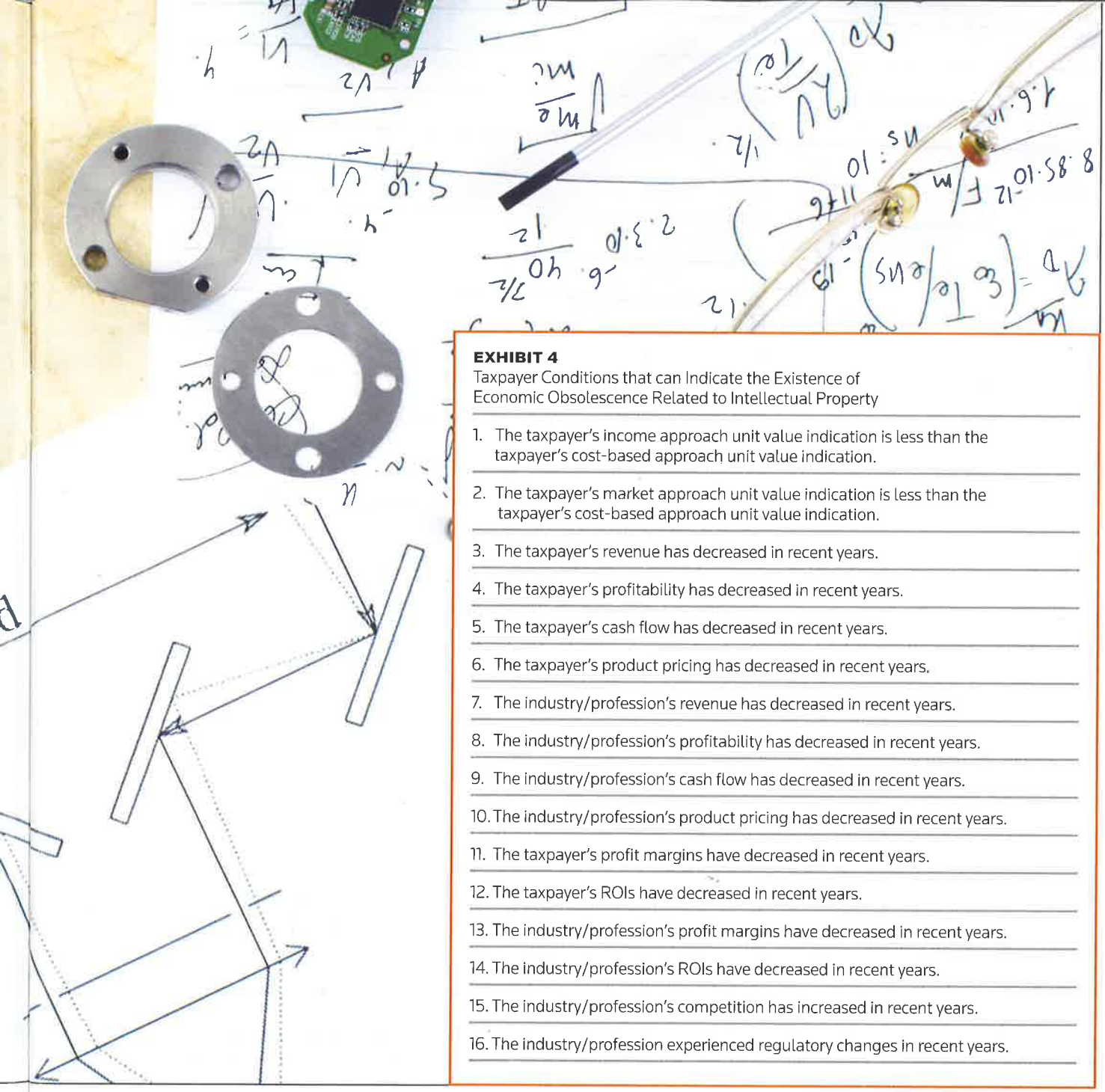


EXHIBIT 4
Taxpayer Conditions that can Indicate the Existence of Economic Obsolescence Related to Intellectual Property

1. The taxpayer's income approach unit value indication is less than the taxpayer's cost-based approach unit value indication.
2. The taxpayer's market approach unit value indication is less than the taxpayer's cost-based approach unit value indication.
3. The taxpayer's revenue has decreased in recent years.
4. The taxpayer's profitability has decreased in recent years.
5. The taxpayer's cash flow has decreased in recent years.
6. The taxpayer's product pricing has decreased in recent years.
7. The industry/profession's revenue has decreased in recent years.
8. The industry/profession's profitability has decreased in recent years.
9. The industry/profession's cash flow has decreased in recent years.
10. The industry/profession's product pricing has decreased in recent years.
11. The taxpayer's profit margins have decreased in recent years.
12. The taxpayer's ROIs have decreased in recent years.
13. The industry/profession's profit margins have decreased in recent years.
14. The industry/profession's ROIs have decreased in recent years.
15. The industry/profession's competition has increased in recent years.
16. The industry/profession experienced regulatory changes in recent years.

costs and efforts related to the actual intellectual property.

The specific inflation-related trend index applied in the analysis should be appropriate to the type of intellectual property development costs that are being indexed to current costs. There are two principles that analysts (and taxpayers and legal counsel) should be aware of with regard to the application of the cost approach to intellectual property valuation.

First, regardless of the specific cost definition applied in the cost measurement analysis, all cost measurement metrics (including RPCN, RCN, or any other cost measurement metric) should consider a comprehensive cost analysis.

Second, regardless of the cost measurement metric applied, all cost approach valuation methods should develop approximately the same value indication for the same intellectual property. That is, there will be a different cost metric quantified for each cost approach valuation method. There will also be a different appraisal depreciation and obsolescence measurement quantified for each cost approach valuation method.

The differences in the various cost metrics are generally offset by the differences in the appraisal depreciation and obsolescence metrics. Therefore, the intellectual property value indication developed from the alternative cost approach valuation methods should be similar.

Cost Measurement Procedures. The intellectual property cost measurement metric should consider the following four cost components:

- Direct costs (such as materials, labor, and taxpayer internal overhead)
- Indirect costs (such as engineering and design expenses and legal and consulting fees)
- The intellectual property developer's profit (as in, a profit margin percent-

age applied to the direct cost and indirect cost investment)
- An opportunity cost/entrepreneurial incentive (such as a measure of lost income or other opportunity cost during the intellectual property development period adequate to motivate the development process)

Direct costs and indirect costs are typically easy to identify and quantify. The developer's profit cost component can be estimated using several generally accepted procedures. This cost component is often estimated as a profit margin percentage applied to the developer's investment in the material, labor, and taxpayer overhead costs.

The entrepreneurial incentive cost component is often measured as either:

1. the income that the developer would lose during the intellectual property replacement/development period or
2. a fair rate of return on the amount of the investment in the total intellectual property cost metric—during the intellectual property replacement/development period.

The lost income concept of entrepreneurial incentive is often considered in the context of a willing buyer's "make versus buy" decision. For example, consider a hypothetical willing buyer and a hypothetical willing seller (as in, the current owner) of a patent.

Let's assume that it would require a two-year period for a hypothetical willing buyer to develop a replacement patent (as in, the elapsed amount time required to develop a new non-infringing invention). If the buyer decided to buy the seller's actual patent, then the buyer could start earning income from it (either operating income or ownership license income) immediately. In contrast, if the buyer decided to make and register its own hypothetical, non-infringing replacement patent, then the buyer would earn no income (either operating income or ownership license income) from the replacement patent during the two-year replacement/development period. The total of the two years of lost income during the hypothetical replacement patent development period represents the opportunity cost of making (i.e., developing) a de novo, non-infringing replacement patent.

All four cost components—direct costs, indirect costs, developer's profit, and entrepreneurial incentive—are typically considered in the intellectual property cost approach valuation analysis. The cost approach applies a different set of analyses than does the income approach. However, the cost approach does include certain economic analyses.

These economic analyses can help indicate which of the two related cost approach components should be measured—either:

1. entrepreneurial incentive or lost income opportunity cost (if any) or
2. economic obsolescence or an inadequate return on investment ("ROI") (if any).

The intellectual property development cost metric (however measured) should be adjusted for any value decreases due to:

- physical deterioration,
- functional obsolescence, and
- external obsolescence.

All types of physical deterioration and obsolescence are collectively referred to as depreciation. This is the appraisal profession's term for a reduction in value, and the term depreciation is applied to the valuation of both tangible property and intangible property. Physical deterioration is a reduction in property value due to physical wear and tear. It is unlikely (but not impossible) that a taxpayer intellectual property will experience physical deterioration. Nonetheless, the analyst should consider the existence of any physical deterioration in any cost approach valuation analysis. For example, physical deterioration can be considered in the cost approach valuation of the trade se-

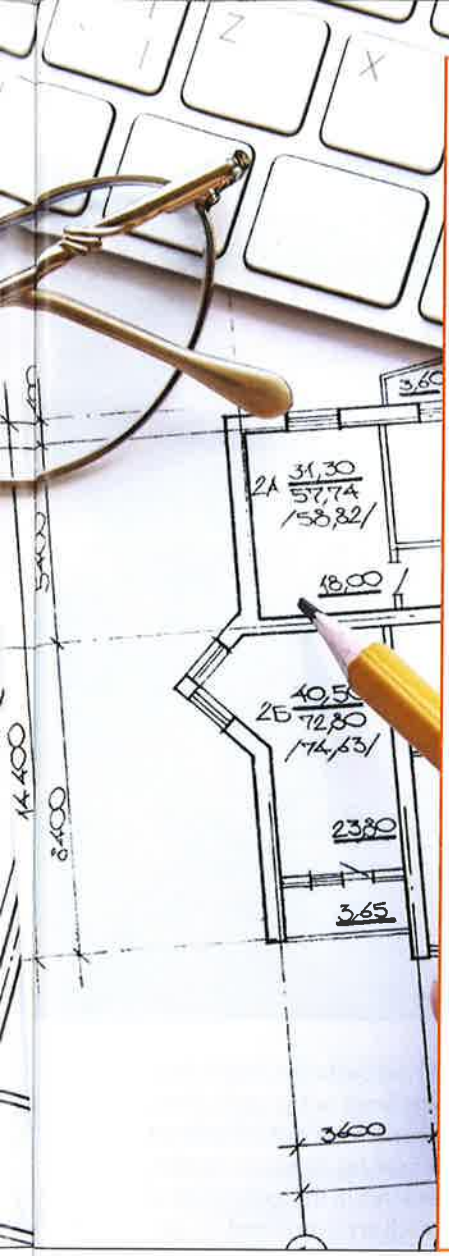


EXHIBIT 5
Bravo, LLC Software-Related Intellectual Property, Cost Approach—RCNLD Method Valuation Summary as of January 1, 2021

System No.	Software System	Estimated Software-Development Effort (in Person-Months)	Elapsed Time to Develop Replacement Software (in Calendar Months)	Full Absorption Cost per Person-Month (includes direct and indirect cost components)	RCNLD Method Cost Component ($000)
1	Charlie	4,531	29	$14,585	66,100
2	Delta	575	25	14,585	8,400
3	Echo	3,304	16	14,585	48,200
4	Foxtrot	1,229	5	14,585	17,900
5	Golf	1,807	41	14,585	26,400
6	Hotel	325	12	14,585	4,700
7	India	85	9	14,585	1,200
	Total Direct Cost and Indirect Cost Components (rounded)	11,856	24		172,900
	Plus: Developer's Profit (rounded)				27,700
	Equals: Subtotal				200,600
	Plus: Entrepreneurial Incentive (rounded)				31,200
	Equals: Total RCN				231,800
	Less: Functional Obsolescence (see Exhibit 6)				36,900
	Equals: Subtotal				194,900
	Less: Economic Obsolescence at 19% (see Exhibit 7)				37,000
	Equals: Computer Software RCNLD				157,900
	Fair Market Value of Bravo Software-Related Copyrights and Trade Secrets (rounded)				158,000

crets component of a trained and assembled workforce (with consideration of whether some employees are nearing retirement age, for instance).

Functional obsolescence is a reduction in intellectual property value because of the property's inability to perform the function (or to yield the economic utility) for which it was originally designed. The technological component of functional obsolescence is a decrease in value deriving from technological advancements that make the taxpayer's intellectual property less than the ideal replacement for itself. In the valuation of computer software copyrights and trade secrets, for example, if the source code is written in an obsolete programming language, then the software may suffer from functional obsolescence.

External obsolescence is a reduction in intellectual property value caused by effects, events, or conditions external to—and not controlled by—the current use or condition of the property. The impact of external obsolescence usually is beyond the control of the taxpayer.

There are two types of external obsolescence:

1. Locational obsolescence
2. Economic obsolescence

Locational obsolescence is a decrease in the intellectual property value caused by changes in neighborhood conditions. This type of obsolescence typically affects intangible property related to real estate, such as easements, drilling rights, air rights, construction permits or rights, environmental operating permits, water extraction rights, and the like. Locational obsolescence typically does not impact intellectual property.

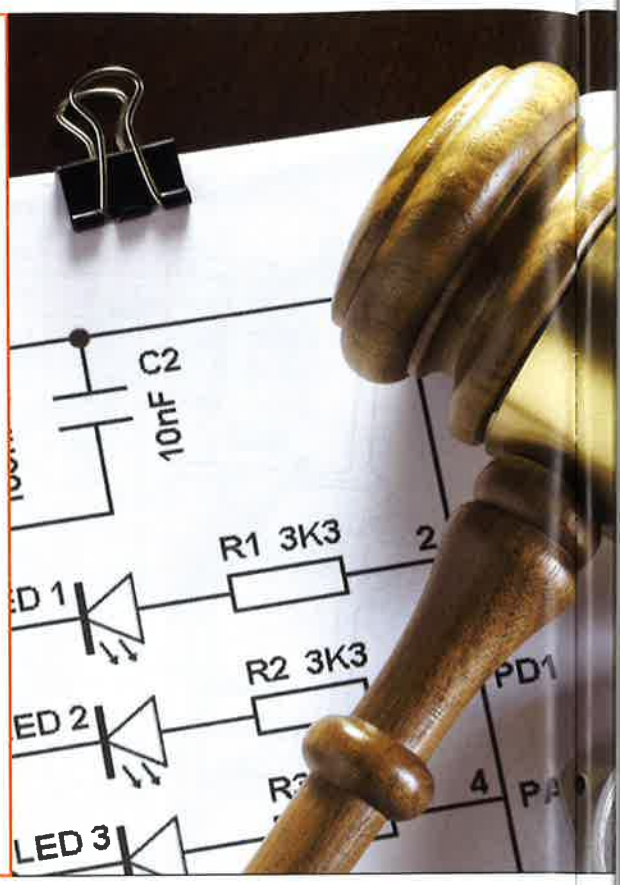
Economic obsolescence relates to the inability of the intellectual property owner/operator to earn a fair rate of ROI related to the intangible property. Economic obsolescence can affect most types of intellectual property. The measurement of economic obsolescence is described later in this discussion.

Obsolescence of any type is considered curable when the taxpayer's cost to cure (as in, resolve) the inefficiency is less than the decrease in value caused by the inefficiency. Obsolescence of any type is considered incurable when the taxpayer's cost to cure the inefficiency is greater than the decrease in value it causes.

Let's assume that a taxpayer operates inefficient copyrighted computer software that was written in an inefficient third-generation programming language). It would cost the taxpayer $1 million to reprogram the software using a more efficient fifth-generation programming language. For the taxpayer,

EXHIBIT 6
Bravo, LLC Software-Related Intellectual Property Cost Approach—RCNLD Method
Functional Obsolescence Analysis as of January 1, 2021

Computer Software System	RCN Total Direct Cost and Indirect Cost Components ($000)	RCN Developer's Profit and Entrepreneurial Incentive Cost Components	Total RCN Cost Components $000)	Percentage of Functional Obsolescence	Total Functional Obsolescence ($000)
Foxtrot	17,900	34%	24,000	80%	19,200
Golf	26,400	34%	35,400	50%	17,700
Total					36,900



the new software system would create a savings in both computer hardware and clerical support expenses that exceeds $1 million (on a present value basis). Therefore, that intellectual property obsolescence is considered to be curable. If the savings was projected to be less than the cost to reprogram the actual software, then the intellectual property functional obsolescence would be considered incurable.

In any cost approach analysis, the analyst should estimate the amount (if any) of physical deterioration, functional obsolescence, and external (potentially economic) obsolescence related to the taxpayer's intellectual property. In estimating the depreciation components, the analyst considers both:

1. the intellectual property's expected UEL and
2. the intellectual property's actual ROI.

Exhibit 1 illustrates the consideration (1) of direct costs (such as direct material and direct labor) and indirect costs (such as consulting fees and legal fees) and (2) of developer's profit and entrepreneurial income. All of these costs are considered in the cost approach valuation of an illustrative intellectual property. Exhibit 1 considers the comparison of historical costs to the current (as in, valuation date) RCN.

As presented in Exhibit 1, the total historical direct costs and indirect costs were $100 when the illustrative intellectual property was originally developed in 2010. In contrast, the total of the current direct costs and indirect cost RCN is estimated here at $125, as of a 2021 valuation date. Exhibit 1 also illustrates how the taxpayer's accounting data typically do not consider developer's profit or entrepreneurial incentive cost components. This statement is true even though the taxpayer did keep track of all of the historical (i.e., in 2010) direct and indirect intellectual property development costs. The 2021 developer's profit and entrepreneurial incentive cost components (estimated here at $75) are then added to the 2021 direct cost and indirect cost components (estimated here at $125). The sum of all these cost components (here $200) is the current 2021 RCN for the intellectual property.

The cost components represented in Exhibit 1 are typically considered as capitalizable costs (i.e., capital expenditures), and not as period costs (i.e., expenses). The costs considered in the application of the cost approach are not considered either pre- or post-tax expenses. Rather, the costs considered in the application of the cost approach are considered as capitalizable expenditures. There is no "tax-affecting" procedure that should be applied to the development of the cost metrics that are considered in a cost approach valuation analysis.

Exhibit 2 illustrates the relationships between the RCN and the replacement cost new less depreciation ("RCNLD"). Exhibit 2 presents the intellectual property RCN as $200, which is the same intellectual property RCN estimate presented in Exhibit 1.

To estimate the intellectual property current value (or RCNLD), the total depreciation is subtracted from the RCN. The three depreciation components include physical deterioration (typically a de minimis consideration for an intellectual property), functional obsolescence, and economic obsolescence. In Exhibit 2, the sum of these three depreciation components is estimated here at $60. The intellectual property RCNLD is calculated as follows:

Cost Approach—RCNLD Method Analysis

$200 RCN

– 60 less total depreciation

$140 RCNLD

Exhibit 2 concludes the current value (or the RCNLD) of the hypothetical intellectual property to be $140. The RCNLD (and not the RCN) of the hypothetical intellectual property provides the cost approach value indication.

Useful Economic Life Considerations. After the analyst has selected the appropriate valuation approaches and methods, the next procedure to consider is the intellectual property's expected UEL. The intellectual property UEL (often called a lifing analysis) estimation is an important consideration in any intellectual property valuation approach. A property's UEL is the total period of time over which the property is expected to generate economic benefits. In estimating useful economic life, the analyst typically considers the financial projections of the taxpayer (or the taxpayer's intellectual property), its industry, the economy or economies of the geographic regions in which the taxpayer operates, and other market participants or competitors.

In the application of the cost approach, a lifing analysis may be performed to estimate the total amount of obsolescence, if any, from the estimated cost measurement metric—that is, the intellectual property RPCN, RCN, or other cost metric. In the application of the cost approach, a longer expected UEL estimate results in a greater intellectual property value. This result occurs because a longer UEL generally indicates less obsolescence in the intellectual property. Normally, a shorter UEL estimate results in a greater obsolescence allowance consideration in the intellectual property value.

Some of the factors that the analyst considers in the expected UEL analysis include the following:

- Legal factors
- Regulatory factors
- Contractual factors
- Functional factors
- Technological factors
- Economic factors
- Analytical factors

The analyst typically considers each of the above-listed categories of factors that influence the UEL estimation. Typically, the factor that indicates the shortest UEL deserves primary consideration in the intellectual property UEL estimate.

Physical Depreciation Measurement Procedures. There is no one individual formula or equation to quantify intellectual property physical depreciation (or deterioration). One procedure related to quantifying intellectual property physical deterioration is to estimate the cost to cure the deterioration (if it is, in fact, curable). The taxpayer's intellectual property is typically not subject to wear and tear—like tangible property is. However, the taxpayer's intellectual property can be "used up" over time. That is, the intellectual property UEL may become shorter over time. This decrease in UEL can decrease the intellectual property value. For example, an intellectual property that is contract-related or otherwise has a legal UEL typically decreases in value as that UEL expires. Intellectual property licenses, permits, contractual rights, agreements, and franchises typically have legally determined finite lives. As that contract (or legal) life expires, the value of that intellectual property typically decreases.

Let's assume that the cost to obtain a Food and Drug Administration ("FDA") license for a new drug product is $10 million. That cost would include all drug development and laboratory work, all clinical tests, all application and documentation fees to the FDA, and a lost income/opportunity cost component during the drug development period. Let's further assume that the FDA license period for the new drug is 10 years. On the date that the FDA license is granted, the license's value probably equals the RCN of $10 million. Nine years later (with only one year remaining in the FDA license term), the license value will likely have decreased. Even ignoring the effect of any economic obsolescence, the willing buyer will probably assume that it will soon need to incur new drug development costs in order to obtain a new FDA license for an improved drug product.

The analyst should decide whether the license value decrease is linear over the 10-year life. However, the license value typically decreases as the UEL decreases. The illustrative FDA license value at the end of year nine will typically be its RCNLD estimate, not its RCN estimate. Some analysts question whether this value decrease should be called technological obsolescence—instead of physical deterioration. Regardless of the terminology used, the analyst should recognize the decrease in the value of contract-related or regulatory-related intellectual property as the UEL of each such property decreases.

The analyst should realize that some types of intangible property may actually experience physical deterioration. All intangible property has some physical manifestation. Even institutional goodwill may be manifested by the taxpayer's financial statements (historical or prospective), articles of incorporation, books and records, and so on. The physical manifestation of some intangible property may experience wear and tear. For example, in an assembled workforce example, some employees may become old (and be ready to retire) or become injured (and be on disability leave). Laboratory notebooks and other technical documentation may become tattered over time. Non-CAD engineering drawings and designs or nonelectronic patient charts and records may show wear and tear over time. The analyst should consider the occurrence of physical de-

terioration during the general intangible property cost approach valuation process. The analyst should at least consider the concept of physical deterioration with regard to an intellectual property cost approach valuation.

Functional Obsolescence Measurement Procedures. For all property, both tangible and intangible, functional obsolescence is usually related to inefficiencies associated with the operation of the property. These inefficiencies typically involve either inadequacies or super-adequacies. An inadequacy occurs when there is not enough of the property (as in, the property is too small) for it to operate efficiently. A super-adequacy occurs when there is too much of a property (as in, the property is too large) for it to operate efficiently.

Regarding intellectual property functional obsolescence, the analyst typically considers these two factors:

1. Excess capital costs
2. Excess operating costs

The consideration of excess capital costs compares the current cost to develop a replacement intellectual property with the historical cost to develop the taxpayer's actual intellectual property. In other words, if it would cost less to develop the replacement intellectual property today than it cost when the actual property was created, then that difference is one measure of functional obsolescence.

The consideration of excess operating costs compares the current cost of maintaining or using the intellectual property to the historical cost of maintaining or using the property when it was first developed or put into service. The present value of any relative excess operating costs, measured over the intellectual property's UEL, is another measure of functional obsolescence.

The analyst often considers the following two methods to quantify intellectual property functional obsolescence:

- The excess capital cost method
- The capitalized excess operating cost method

Although it is called the excess capital cost method, this method can be applied to measure obsolescence related to either an inadequacy or a super-adequacy. This method is, however, more frequently applied to measure intellectual property super-adequacy.

To illustrate functional obsolescence measurement, let's assume that the Alpha Pipeline Company ("Alpha") operates a particular accounting software system for billing and receivables. This accounting software was written in COBOL, a third-generation programming language. Alpha's other customer records software and all other administrative software are written in Java or in C++ (or in some other fourth- and fifth-generation programming languages). Alpha management plans to replace the actual billing and receivables software with new customized software. However, for the next five years, the Alpha information technology ("IT") department will not have the resources to complete the new software development project. In the meantime, Alpha employs a COBOL programmer to maintain the current billing and receivables system. When a new billing and receivables software is developed, this COBOL programmer position will be eliminated. The full absorption cost of the COBOL programmer is $100,000 per year.

Let's assume that an analyst is retained to estimate the fair market value of the copyrights and trade secrets intellectual property related to the billing and receivables software as of the January 1, 2021, property assessment date. The analyst decides to apply the cost approach and the RCNLD method to value this intellectual property. Let's assume that the RCN for the current billing and receivables software is $1.2 million. The RCN for the new customized billing and receivables software will be much greater than $1.2 million. To simplify this example, let's assume that there is no physical depreciation or economic obsolescence related to the current computer software.

Applying the capitalized excess operating cost method to measure functional obsolescence, the analyst estimated the value

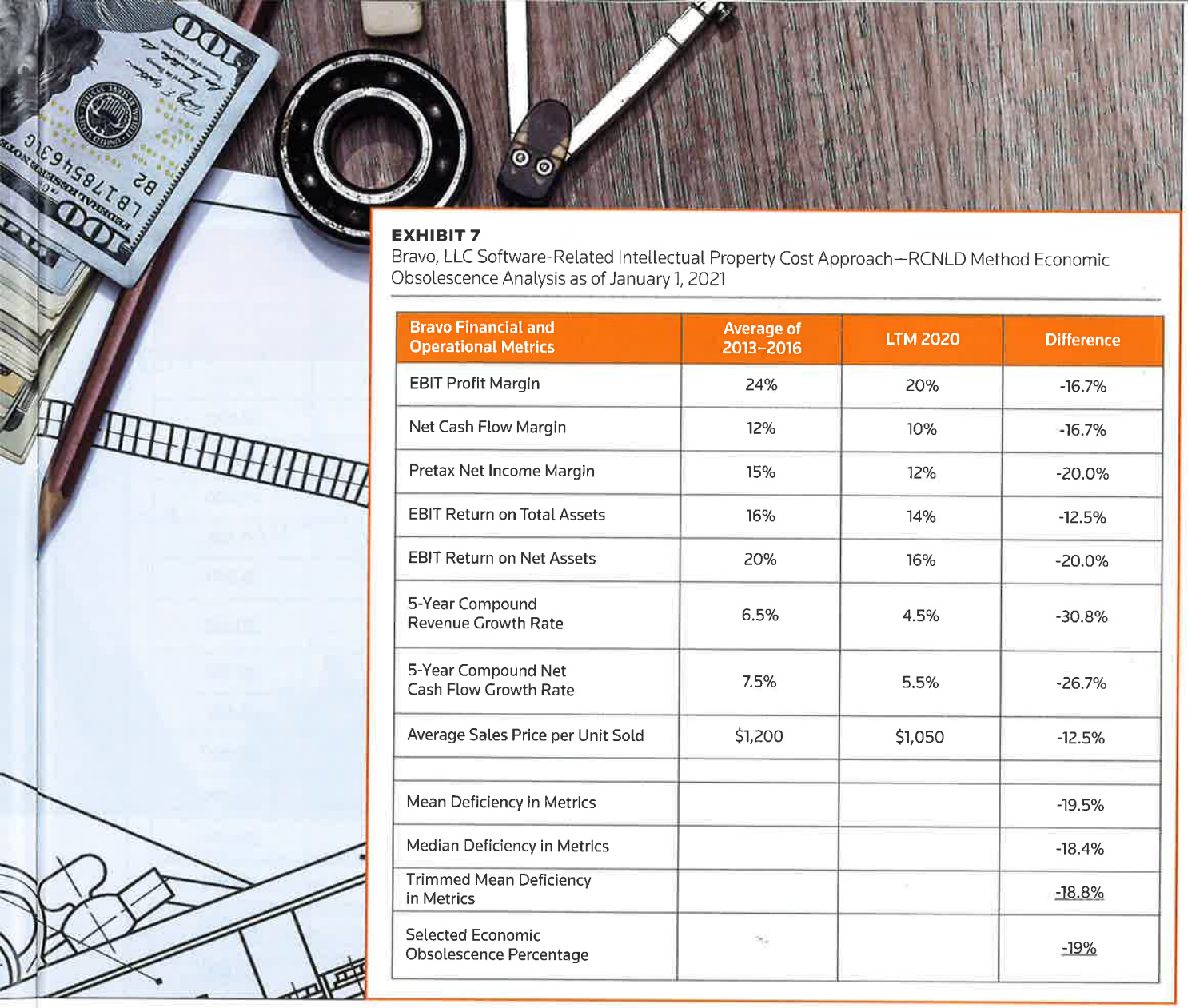


EXHIBIT 7
Bravo, LLC Software-Related Intellectual Property Cost Approach—RCNLD Method Economic Obsolescence Analysis as of January 1, 2021

Bravo Financial and Operational Metrics	Average of 2013–2016	LTM 2020	Difference
EBIT Profit Margin	24%	20%	-16.7%
Net Cash Flow Margin	12%	10%	-16.7%
Pretax Net Income Margin	15%	12%	-20.0%
EBIT Return on Total Assets	16%	14%	-12.5%
EBIT Return on Net Assets	20%	16%	-20.0%
5-Year Compound Revenue Growth Rate	6.5%	4.5%	-30.8%
5-Year Compound Net Cash Flow Growth Rate	7.5%	5.5%	-26.7%
Average Sales Price per Unit Sold	$1,200	$1,050	-12.5%
Mean Deficiency in Metrics			-19.5%
Median Deficiency in Metrics			-18.4%
Trimmed Mean Deficiency in Metrics			-18.8%
Selected Economic Obsolescence Percentage			-19%

of the current COBOL software intellectual property as summarized in Exhibit 3. In Exhibit 3, the 2.99 present value annuity factor is based on (1) an assumed five-year UEL for the taxpayer's software and (2) an assumed 20 percent (pretax) present value discount rate. Theoretically, the analyst, if applying consistent valuation variables, should reach the same value conclusion for the same intellectual property no matter which functional obsolescence measurement method he or she applies. The intellectual property RCNLD should be the same whether the analyst applies the excess capital cost method or the capitalized excess operating cost method to measure functional obsolescence.

Economic Obsolescence Measurement Procedures. The analysis of economic obsolescence is typically the last procedure in any intellectual property cost approach valuation. The objective of the economic obsolescence analysis is to determine whether the taxpayer can earn a fair rate of return on the value indication. If the taxpayer can earn a fair rate of return, then the cost approach value (before an economic obsolescence allowance) provides the intellectual property value indication. If the taxpayer cannot earn a fair rate of return, then the value indication should be reduced by the amount of the economic obsolescence allowance. The cost approach value should be reduced to the level at which the taxpayer can earn a fair rate of return. The value indication adjusted for economic obsolescence results in the cost approach final value indication.

It is usually fairly easy for the analyst to identify physical deterioration (if any) in intangible property. It also is fairly easy for the analyst to identify functional obsolescence (if any) in intangible property. This is because these depreciation components are inherent in the intangible property. Economic obsolescence is more difficult to identify than physical deterioration or functional obsolescence. Typically, the causes of economic obsolescence are external to the intangible property.

The analysis of intellectual property economic obsolescence is usually a two-step process:

1. Identify the existence of economic obsolescence.
2. Quantify the amount of economic obsolescence.

The analyst should consider economic obsolescence in every intellectual property cost approach analysis. A number of conditions can indicate the existence of economic obsolescence. Exhibit 4 lists some of these conditions.

While none of the conditions in Exhibit 4 specifically measures the amount

EXHIBIT 8
Juliet Corporation Kilo Patent and Proprietary Process Technology Cost Approach —RCNLD Method Fair Market Value Summary as of January 1, 2021

Kilo Proprietary Process Development Stages	Estimated Kilo Replacement Development Effort (in Person-Months)	Elapsed Time to Develop Kilo Replacement (in Calendar Months)	Full Absorption (Direct and Indirect) Cost by Person-Month	RCNLD Method Cost Component ($000)
Initial Process Development	3,531	24	$12,000	42,400
Second Stage Process Development	1,575	20	12,000	18,900
Initial Stage Process Tests	2,304	16	12,000	27,600
Second Stage Process Tests	1,669	5	12,000	20,000
Third Stage Process Tests	1,807	21	12,000	21,700
Final Patent Application and Grant Process	1,325	12	12,000	15,900
Proprietary Process Branding and Marketing Process	885	9	12,000	10,600
Total Direct and Indirect Replacement Costs	12,656	48		157,100
Plus: Developer's Profit				31,400
Equals: Subtotal				188,500
Plus: Entrepreneurial Incentive				41,200
Equals: Total RCN				229,700
Less: Functional Obsolescence (see Exhibit 9)				19,300
Equals: RCNLD before Economic Obsolescence				210,400
Less: Economic Obsolescence at 10% (see narrative)				21,000
Equals: RCNLD				189,400
Fair Market Value of the Kilo Process Patent and Proprietary Technology Intellectual Property (rounded)				190,000

of economic obsolescence, the existence of one or more of these conditions may indicate the existence of economic obsolescence. To measure economic obsolescence, the analyst typically considers either (or both) of the following:

1. Taxpayer-specific factors
2. Industry factors

Procedures to Measure Economic Obsolescence. Most economic obsolescence analyses are performed on a comparative basis. The comparative basis can be:

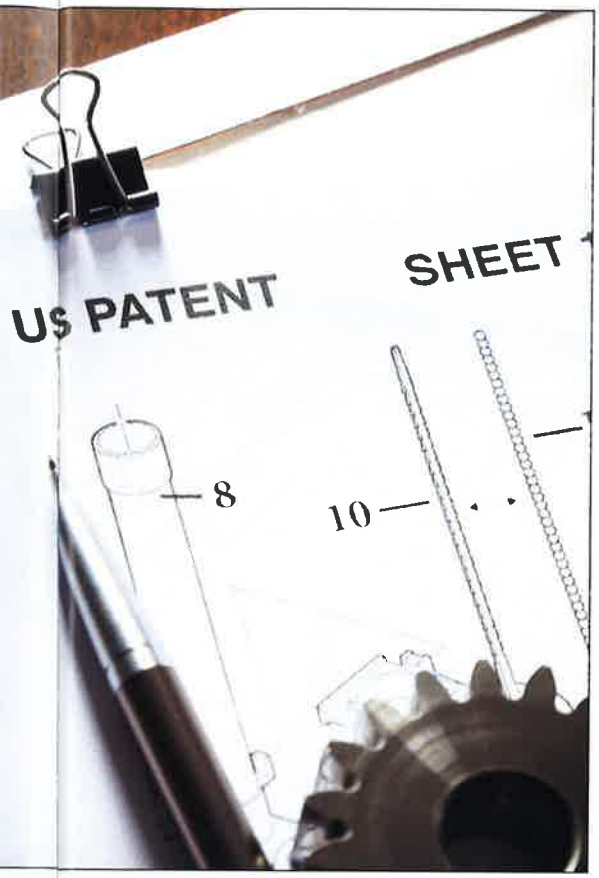
1. the taxpayer's actual operating results with the economic obsolescence effect in place compared to
2. the taxpayer's hypothetical (e.g., historical or projected) operating results without the economic obsolescence effect in place.

Alternatively, the comparative basis can be:

1. the taxpayer's actual operating results with the economic obsolescence effect in place compared to
2. one (or more) comparable entity's operating results without the economic obsolescence effect in place.

Given the comparative nature of economic obsolescence analyses, a noncomparative analysis is unlikely to be adequate for measuring economic obsolescence. To quantify many types of economic obsolescence, the analyst may need to review the taxpayer's financial documents or operational reports. Such taxpayer documents can include the following:

- Financial statements or financial results of operations
- Financial budgets, plans, projections, or forecasts
- Production statements, production cost analyses, or operating cost variance analyses
- Material, labor, and overhead cost of goods sold (or cost of services delivered) analyses
- Fixed expense versus variable expense operating statements
- Unit or total entity cost/volume/profit analyses



- Unit/dollar sales analyses or average selling price analyses

The analyst should consider the taxpayer's data and documents in the preceding list on a comparative basis, such as the following:

- Actual results versus historical results
- Actual results versus budgeted results
- Actual results versus specific comparative entity results
- Actual results versus specific competitor results
- Actual results versus industry/profession average or benchmark results
- Actual results versus the taxpayer's practical or normal production capacity

To identify the causes of the economic obsolescence, the analyst is most likely to analyze the taxpayer's financial data. Regarding intellectual property specifically, the analyst often analyzes the following financial and operational data:

- Business enterprise profit margins
- Business enterprise ROIs
- Industrial/commercial product/service unit average selling price
- Industrial/commercial product/service unit cost of goods sold
- Industrial/commercial product/service unit sales volume

The analyst seeks to identify any external factors that could cause the taxpayer to earn less than a fair rate of return on the intellectual property cost approach value indication.

Concluding the Cost Approach Value Indication. By this point, the analyst has performed all the following intellectual property valuation procedures:

1. Concluded that the application of the cost approach is appropriate for the taxpayer's intellectual property
2. Confirmed that adequate current cost information is available to perform a cost approach analysis
3. Selected the appropriate cost measurement measure or metric for the intellectual property current cost
4. Included all appropriate cost components in the current cost measurement
5. Identified and quantified any necessary allowance for physical deterioration
6. Identified and quantified any necessary allowance for functional obsolescence
7. Identified and quantified any necessary allowance for economic obsolescence

To conclude a cost approach value indication, the only remaining procedure is to subtract all appraisal deprecation and obsolescence allowances from the current cost measure.

Simplified Illustrative Examples. The following two examples illustrate the application of the cost approach to develop the intellectual property valuation.

Example 1: Valuation of Computer Software Copyrights and Trade Secrets for a Utility Taxpayer. The first example also involves the valuation of internally developed computer software copyrights and trade secrets. This example illustrates the application of the cost approach and the RCNLD method with consideration of developer's profit, entrepreneurial incentive, and economic obsolescence.

This illustrative example is based on the following assumptions:

- Bravo, LLC ("Bravo") is the owner/operator of the software-related copyrights and trade secrets.
- Bravo is an electric generation public utility that is assessed for property tax purposes based on the unit valuation principle. The state assessment authority valued the total Bravo unit at $900 million.
- The property tax assessment date is January 1, 2021.
- Intangible personal property (including intellectual property) is exempt from ad valorem property taxation in the taxing jurisdiction where Bravo is located.
- The jurisdictional property tax standard of value is fair market value.

The Bravo internal IT staff has developed many computer software programs over the years. The Bravo 17 department groups this internally developed software into the seven major software systems listed in Exhibit 5.

The analyst worked with Bravo IT management to estimate the amount of effort required to replace the functional equivalent (as in, the economic utility) of the taxpayer's internally developed software as of the valuation date. The estimates of the number of development effort person-months required to replace the utility of each subject system are listed in Exhibit 5. A person-month is equal to 40 hours per week for four weeks. The analyst concluded that it would require 11,856 person-months to replace the functionality of the taxpayer's software-related intellectual property.

The analyst studied the actual software development costs at Bravo during 2020. Based on this due diligence, the analyst concluded that the average cost per person-month for the Bravo software development effort was $14,585. That total cost includes all direct costs and all indirect costs related to the Bravo software development efforts. Therefore, that cost per IT person-month is a full absorption software development cost estimate.

The analyst estimated the developer's profit component related to the taxpayer software replacement cost new ("RCN"). The analyst surveyed several software development companies of the type that would accept contracts to replace the subject systems. These companies indicated that they would charge a 16 percent operating profit margin over their total actual development costs to replace the subject software. The analyst added this developer's profit cost component to the RCN estimate.

As indicated in the "Elapsed Time to Develop" column in Exhibit 5, Bravo IT

management concluded that it would take 24 elapsed months, on average, to develop and install all the hypothetical replacement software. The analyst decided to estimate the entrepreneurial cost component as the opportunity cost related to total operating profits for a 24-month software replacement period. The analyst estimated the normalized operating profits (measured here as earnings before interest and taxes) for a 24-month software replacement period. Working with the Bravo financial management, the analyst concluded that this 24-month opportunity cost (as in, the Bravo total lost profits without the computer software in place) is $31.2 million. The analyst included this opportunity cost amount as the entrepreneurial incentive cost component.

Including all four cost components, the analyst estimated the Bravo software-related intellectual property RCN to be $231.8 million.

During the due diligence examination, the analyst learned that both the Foxtrot and the Golf systems are currently in the process of being replaced. The Bravo IT department is in the process of developing replacement application software for both systems. The Foxtrot system is expected to be replaced in one year, and the Golf system is expected to be replaced in three years. Based on these estimated times, and working with Bravo IT management, the analyst estimated that (1) the Foxtrot system is 80 percent functionally obsolete and (2) the Golf system is 50 percent functionally obsolete. The analyst estimated the Bravo software functional obsolescence as summarized in Exhibit 6.

During the due diligence investigation, the analyst learned that most of the Bravo software was developed and installed between five and eight years ago. During that earlier time period, Bravo was much more profitable than it is now. Because of intense competition in its industry, the taxpayer's profit margins, growth rates, and ROIs all decreased between (1) the period when the software was originally developed (that is, 2013 through 2016) and (2) the current period (all of 2020).

The analyst considered these factors when measuring the economic obsolescence component. The analyst prepared Exhibit 7 to summarize some of the economic obsolescence elements considered in the software-related intellectual property valuation.

Based on the analysis of the financial and operational metric presented in Exhibit 7, the analyst selected 19 percent as the appropriate economic obsolescence measurement. The analyst applied this economic obsolescence measurement to the RCNLD indication presented in Exhibit 5. Based on the application of the cost approach, and the RCNLD method, the analyst concluded that the fair market value of the Bravo software-related copyrights and trade secrets, as of January 1, 2021, was $158 million.

Example 2: Valuation of a Patent for a Refinery Taxpayer. The second illustrative example relates to the Juliet Corporation ("Juliet"). Juliet owns and operates an oil refinery that is subject to the unit valuation principle of property assessment. In the subject taxing jurisdiction, only real estate and tangible personal property are subject to property taxation. So, Juliet management has to value its intellectual property and subtract that intangible property value from the assessor's concluded total unit value for the refinery. This example illustrates the application of the cost approach and the RCNLD method to the valuation of the taxpayer's intellectual property. This illustrative example considers (1) the various intellectual property development stages and (2) the functional obsolescence measurement.

Juliet management retained an analyst to estimate the fair market value of its Kilo proprietary technology and process patent. This valuation is necessary to allow Juliet management to subtract the value of the process patent from the January 1, 2021, total unit value assessment. The Kilo patented proprietary process was newly developed as of the assessment date.

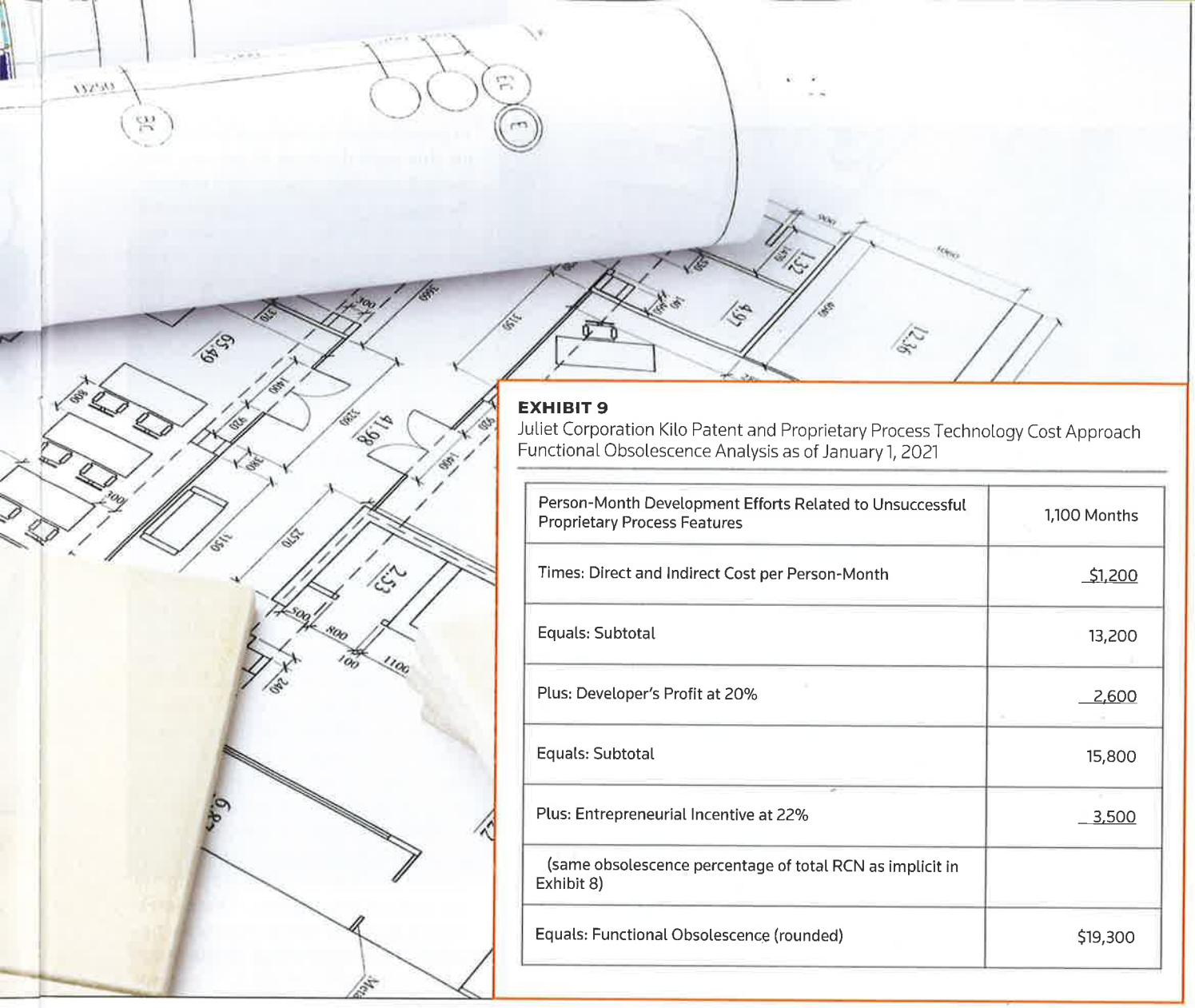


EXHIBIT 9
Juliet Corporation Kilo Patent and Proprietary Process Technology Cost Approach Functional Obsolescence Analysis as of January 1, 2021

Person-Month Development Efforts Related to Unsuccessful Proprietary Process Features	1,100 Months
Times: Direct and Indirect Cost per Person-Month	$1,200
Equals: Subtotal	13,200
Plus: Developer's Profit at 20%	2,600
Equals: Subtotal	15,800
Plus: Entrepreneurial Incentive at 22%	3,500
(same obsolescence percentage of total RCN as implicit in Exhibit 8)	
Equals: Functional Obsolescence (rounded)	$19,300

In fact, it was just implemented as of the January 1, 2021, valuation date.

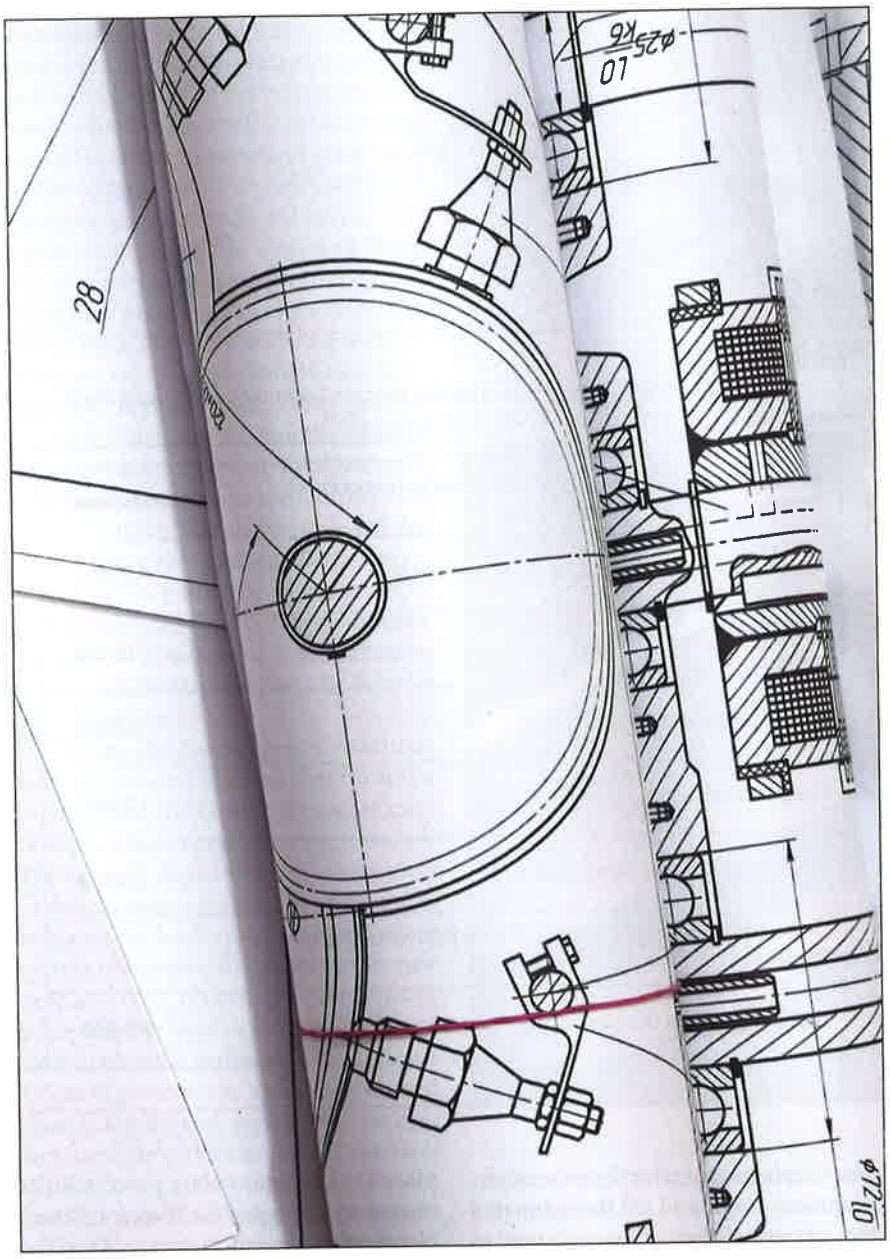
Juliet recently completed the proprietary process development and the patent approval process. Accordingly, Juliet management could provide the analyst with current and accurate (1) process development and patent application activities and (2) process development and patent application effort estimates (measured in person-months). Working with Juliet R&D management, the analyst concluded that the average full absorption cost of the Kilo patent development team is $12,000 per person-month. The analyst based this valuation variable on the actual development team current costs. This person-month estimate includes all direct costs and all indirect costs related to the Kilo process development and patent application process.

Exhibit 8 presents (1) the proprietary process development stages, (2) the estimated replacement effort by process development stage, and (3) the estimated total amount of elapsed time required to replace the Kilo patented process. Based on these data, the analyst can calculate total direct costs and indirect costs RCN.

The analyst estimated the developer's profit cost component. Like many refinery companies, Juliet sometimes uses engineering firms to assist in its proprietary process development. These engineering firms typically worked on a "cost plus" contract basis. After reviewing the actual contracts that Juliet entered into with various engineering firms, the analyst concluded that 20 percent was a reasonable developer's profit margin. The analyst included this developer's profit margin in the Exhibit 8 RCN estimate.

Working with Juliet R&D management, the analyst concluded that it would require 48 months of elapsed time to replace the Kilo proprietary process. Juliet management prepared a 10-year business plan for this new proprietary process. The present value of the expected operating profit (measured here as EBIT) related to the implementation of this new process for the first four years is $41.2 million. With the Kilo patented process in place, Juliet will earn (on a present value basis) $41.2 million of operating profit from this proprietary process over the next four years. Without the Kilo patented process in place, Juliet will earn $0 of operating profit from this proprietary process over the next four years. The analyst decided to use this opportunity cost measurement as the entrepreneurial incentive cost component. As Exhibit 8 indicates, the Kilo patented proprietary process RCN is $229.7 million.

During the due diligence process, the analyst learned that the Juliet process de-



velopment team actually spent 1,100 person-months related to the development of ultimately unsuccessful features of the proprietary process. These unsuccessful features were not included in the process that finally received patent protection. The analyst concluded that these costs represent functional obsolescence; this is because a willing buyer would not be willing to pay for these unsuccessful process features.

The analyst measured the amount of this functional obsolescence as presented in Exhibit 9.

The analyst considered the existence of economic obsolescence related to the Kilo patent intellectual property. Juliet management developed a 10-year business plan related to this proprietary process. At the end of 10 years, Juliet management believes that the process will become obsolete. The patent will still be legally valid. However, because of industry competition, Juliet management expects that a substitute proprietary process will replace the Kilo patented process in 10 years. Based on this 10-year business plan, the analyst estimated that Juliet will earn an internal rate of return ("IRR") of approximately 12.5 percent on the Kilo patented process over 10 years. The analyst learned that the Juliet cost of capital (its weighted average cost of capital or "WACC") is 14 percent. Therefore, Juliet management expects to earn an IRR with the Kilo patented process that is 1.5 percent less than the company's 14 percent WACC (or required ROI). Based on this capitalization of income loss method economic obsolescence analysis, the analyst concludes that this patented proprietary process will experience approximately 10 percent economic obsolescence (that is, the 1.5 percent IRR deficiency divided by the 14 percent Juliet WACC). The analyst included this 10 percent economic obsolescence allowance in the Exhibit 8 cost approach analysis.

Based on the application of the cost approach and the RCNLD method, the analyst concluded the fair market value of the Kilo process patent and proprietary technology intellectual property, as of January 1, 2021, is $190 million.

Summary and Conclusion. This discussion summarized the procedures and considerations with regard to the application of the cost approach to a property-tax-related intellectual property valuation. The cost approach is applicable to the valuation of many types of intellectual property in many industries. The cost approach may be particularly applicable to the valuation of intellectual property owned by taxpayers that are subject to the unit principle of property valuation for property tax assessment purposes. These intellectual property valuations are particularly relevant in taxing jurisdictions where intangible property is exempt from state or local property taxation.

However, the cost approach is only applicable to an intellectual property valuation if the analyst:

1. appropriately considers all intellectual property cost components and
2. appropriately identifies and quantifies all intellectual property obsolescence allowances.

Regardless of the type of the intellectual property or the property tax compliance, appeal, or litigation purpose of the valuation, the analyst should consider all generally accepted intellectual property valuation approaches and methods. The analyst should have a clear, convincing, and cogent rationale (1) for accepting each valuation approach and method applied in the intellectual property valuation and (2) for rejecting each valuation approach method not applied in the intellectual property valuation. In this way, the property-tax-related intellectual property valuation will be (1) supportable and (2) credible. ■