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GAAP Accounting White Paper v8

October 10th, 2018

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From: Industrial Development Funding, LLC
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I. Introduction

In the Industrial sector, new product research and development (“R&D”) programs are time-consuming and costly. As markets have evolved in recent years, profitability of these programs has been constrained as a result of declining rates of return, rising costs, increased difficulty in sourcing innovative solutions, and more stringent government regulations.

Public investors are increasingly looking at short-term returns for their investment. Conversely, the underlying programs that are key for the growth of companies in this industry, require significant upfront investment and have no incoming cash flows for several years (typically 2-5 years). Subsequent cash flows are then received in the range of 10-40 years into the future.

Industrial Development Funding, LLC (“IDF”), engages with leading Industrial Companies (“ICs” or “IC” for an individual company) to assist the IC with innovative R&D funding arrangements, which helps share the burden of R&D expense for the IC. These arrangements allow an IC to partner with various investors to assist in the funding and to share the financial risk (development and commercial) and rewards of the R&D programs.

II. Background

IDFs investment platform leverages access to a variety of large, long term, global alternative investors through existing relationships in prior Industrial R&D programs, including sovereign wealth funds, national pensions, family offices, and development banks. IDF partners with the IC to contribute funding to and share in the financial risk (development and commercial risk) and rewards of the R&D programs. IDF provides effective partnering because it matches the need for alternative risk share funding solutions for IC’s with their Investors strong interest in long term, uncorrelated investments.

Key trends affecting Industrials include public equities managing for shorter-term gain, banks shunning riskier forms of lending due to regulatory pressure, industrial customers pushing for spending to be transferred from CapEx (capital expenditures) to OpEx, (operating expenditures) and decaying infrastructure requiring significant investment. Investor trends include commoditized pricing for traditional asset-backed finance, increasing asset correlation in times of financial stress, and capital horizons for Private Equity firms that are often insufficient for longer-term program developments

In IDFs R&D funding arrangements they provide funding for, and shares in the commercial and technical risks in the R&D, in return for a future revenue interest in the product, but do not actively participate in the operating decisions to develop and sell the product. The IC is not obligated to reimburse the investor for the funding provided (no downside protection) unless the product introduction is deemed successful, and

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and repayment or return to the investor is contingent on achievement of technology specifications, and generation of future revenue from the sale of the products under development (e.g., investor may receive royalty or licensing fee for the use of the IP created to generate commercial benefit).

The commercial objective of each arrangement is to receive funding from investors to help reduce the burden of R&D expense while sharing in the risks and rewards of development. This objective may be achieved through two potential funding arrangements that can be brokered by IDF.

1. R&D arrangements by contract

The IC and investors will enter into a contractual agreement whereby the IC will be entitled to receive funding directly from an investor to perform R&D services. The arrangement would be structured in a way that allows the investor to receive future payments (e.g., milestone payments, royalties on sales) that are contingent upon realization of the future economic benefits of the Intellectual Property (“IP”) resulting from the R&D. The IC will have no obligation to repay the investor for funding provided as the investor is exposed to the R&D risk associated with the program.

2. R&D arrangements through Joint Ventures (“JV”)

The IC and investor will establish a special-purpose JV entity, whereby the investor will contribute funding to the JV. Through the investment in the JV, the investor will be entitled to participate in the future economics of the JV which are contingent on successful R&D. The IC will contribute the R&D services, and/or the IP rights to develop new IP or products. The IC may also choose to contribute funding to the JV if agreed upon by the parties.

Benefits of funding arrangements

There are a number of benefits that can be obtained as the result of funding arrangements arising from the aforementioned structures. These benefits are detailed in the below tables.

Why would an IC enter into R&D Funding Arrangements?	
Transfer risk arising from R&D	An IC can transfer of all or part of the uncertainty and commercial risk involved with R&D to others by structuring the funding arrangement in a way that mutually benefits the IC and the investor. The R&D arrangement may be structured in such a way that allows for the following: - Investor’s financial exposure is tied to the development expense (e.g., royalty payment dilution in the event of a cost overrun); - Investor returns tied to commercial success and timing; or - No minimum return is guaranteed for the investor.
Increased investment capacity	An IC can increase available capital which would have been otherwise dedicated to the R&D program for investment purposes, creation or funding of new programs and/or jobs.
Protect debt-to-equity ratio	By securing funding from other investors, rather than issuing debt securities, an IC can avoid debt service expenditures, and the impact on the IC’s debt-to-equity ratio that would result from issuing debt securities.
Less volatile earnings/ratios on the IC	An IC’s near-term earnings would be impacted by R&D spend if internally funded. An R&D funding arrangement will help an IC avoid the impact on the entity’s near-term earnings that would result if the IC incurred the

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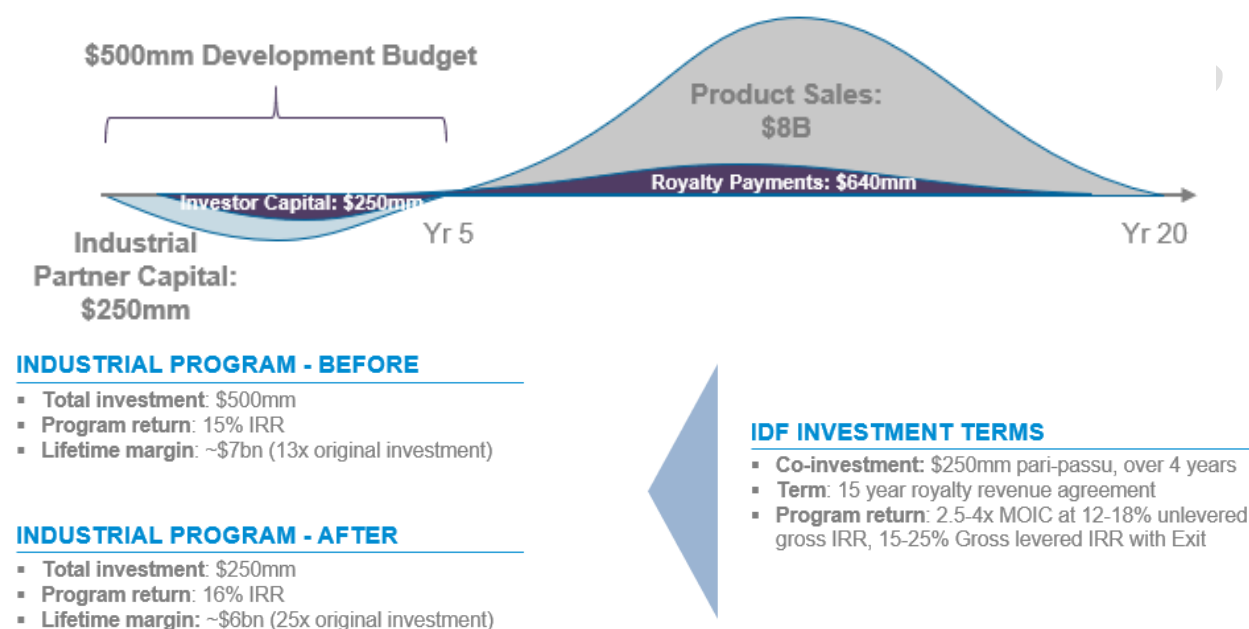
level and the program level	related research and development expenses. This will also improve program profitability and program cash flows.
Less volatile earnings per share (“EPS”) ratios	Rather than issuing equity securities, an IC can enter into a R&D funding arrangement to avoid expanding the ownership of the entity and impact on EPS that would result from issuing equity securities.
Increased supplier negotiation leverage	With more capital, an IC may have greater leverage in negotiating with suppliers. Further, if a supplier can use the product being developed to improve their operations, the supplier may provide better terms to the IC as an alternative method of investing in the R&D program.
To retain ownership of IP and control of program	An IC can structure a funding arrangement in such a way that the IC can retain ownership and control of the program, and investors will act in a purely passive capacity, or where the IC retains purchase rights to buy back the IP created by the R&D.
Programmatic and scalable	With an investor funding, the IC is held to a commercially reasonable standard of development, which could be scaled up when the program demands. Additional R&D programs of the IC can be easily added to the structure once the initial R&D program is established.

Why would an investor enter into R&D Funding Arrangements?	
Co-investment in R&D programs with top ICs	Investors have the opportunity to enter into R&D funding arrangement with top ICs that have a reputation or have proven R&D results in the past.
Low correlation to traditional financial markets	Investors may want to diversify their portfolios to include investments in the Industrial sector. This approach takes advantage of the fact that there are very different risk factors affecting Industrial investment returns when compared to the risk exposure in traditional financial markets.
Programmatic and scalable	With an investor funding, the IC is held to a commercially reasonable standard of development, which could be scaled up when the program demands. Additional R&D programs of the IC can be easily added to the structure once the initial R&D program is established.
Tax incentives	Investors may enter into R&D funding arrangements to take advantage of the tax benefits (e.g. tax credits, taxable deductions etc.) that may be offered for the specific R&D services conducted. Tax incentives will be program- and jurisdiction- dependent. Royalty-based nature of structure provides additional tax incentives as royalties carry a 0% tax rate in many of IDF’s investors jurisdictions.

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The diagram below displays an illustrative example¹ of the potential economics of the arrangement. This figure shows that the contribution by investors could result in relatively minimal royalty payments compared with the potential for total product sales.

Figure 1: Illustrative economics of an R&D funding arrangement



III. Structures

As noted above, there are two potential transaction structures, with variations therein, that could assist an IC in achieving their commercial objectives.

i) R&D funding by contract

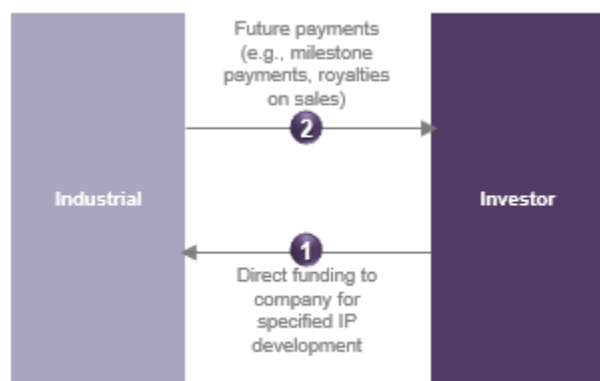
Under this type of arrangement, an investor will provide funding to an IC through a contractual agreement, whereby the investor will contribute funding to the IC. The IC will perform the specified R&D services and will have no obligation to repay the funding provided by the investor. The investor is entitled to participate in the successful completion of the IP development through repayment that is tied to future sales (e.g., milestone payments or royalties on sales).

This funding arrangement does not require new legal entities to be created for the R&D funding to be received, and if structured in the right way, the arrangement may allow the R&D funding to be recognized as a credit to the Income Statement (refer to Section IV. Accounting Outcomes for further detail).

¹ Note, this diagram depicts an illustrative scenario only, however details the simulated economics that could potentially be achieved in a R&D funding arrangement.

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Figure 2: Example of R&D funding arrangement by contract



ii) R&D funding by JV

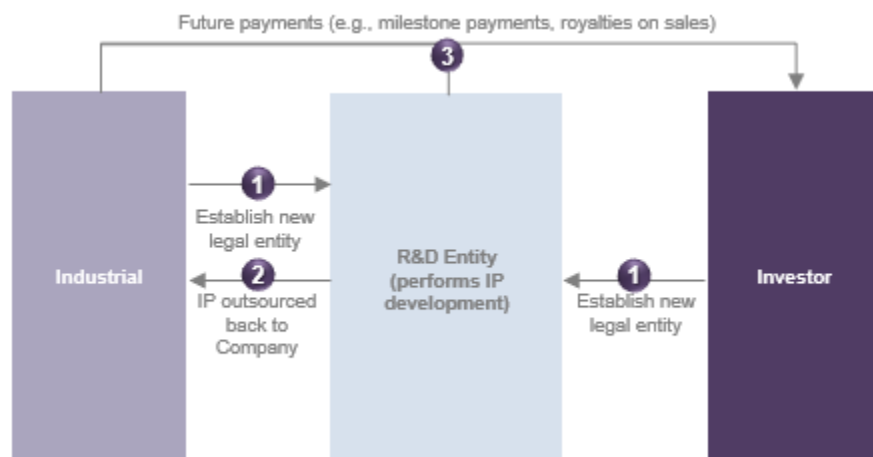
Many recent funding arrangements have included the formation of a new legal entity. Ownership structure of this new entity can vary, depending on the arrangement, and the desired accounting outcome (refer to Section IV. Accounting Outcomes for further detail). Under this type of arrangement, the IC, the investor, or both parties establish a new legal entity ("R&D Entity") which is created with the explicit purpose of performing the R&D activities.

The IC may contribute funding, IP for R&D purposes, and any other necessary resources to the R&D Entity, whereas the investor will contribute funding and may assume a passive role in the operations of the R&D Entity. The IC may retain the IP used in the R&D Entity's R&D activities, and can also potentially retain the IP resulting from the R&D Entity through provisions established upon the creation of R&D Entity, or through a purchase option over the IP resulting from the R&D activities. The R&D Entity may also engage the IC for the execution of the IP R&D services to be performed in connection with the R&D program.

Similarly to the R&D funding by contract, returns for investors are contingent on the successful completion of the IP development.

Figure 3: Example of R&D funding arrangement by JV

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iii) Considerations for transfer of risk (both structures)

To achieve desired commercial results and accounting treatments, both structures require careful consideration as to whether an IC has truly transferred financial risk involved with the R&D program to an investor. If financial risk has not been transferred and is not substantive and genuine, it is presumed that an IC has the obligation to repay the funds provided by the investor regardless of the outcome of the R&D. In such cases, the funds received by the investor constitute a liability of the IC and thus cannot be recognized in the Income Statement (i.e. recognized on the Balance Sheet as a financial liability).

While technical risks such are the most relevant to the analysis of risk transferred for R&D arrangements, operational and commercial risks will need to be evaluated as to whether these risks are assumed by the investor. Technical risks are more of a focus for the Contract method, whereas both commercial and technical risks are equally a focus for the JV method. These risks are considered in each unique R&D funding arrangement, and no one risk factor is determinative; individual facts and circumstances of each R&D funding arrangement should be considered. This may include (though is not limited to) analysis of the following factors:

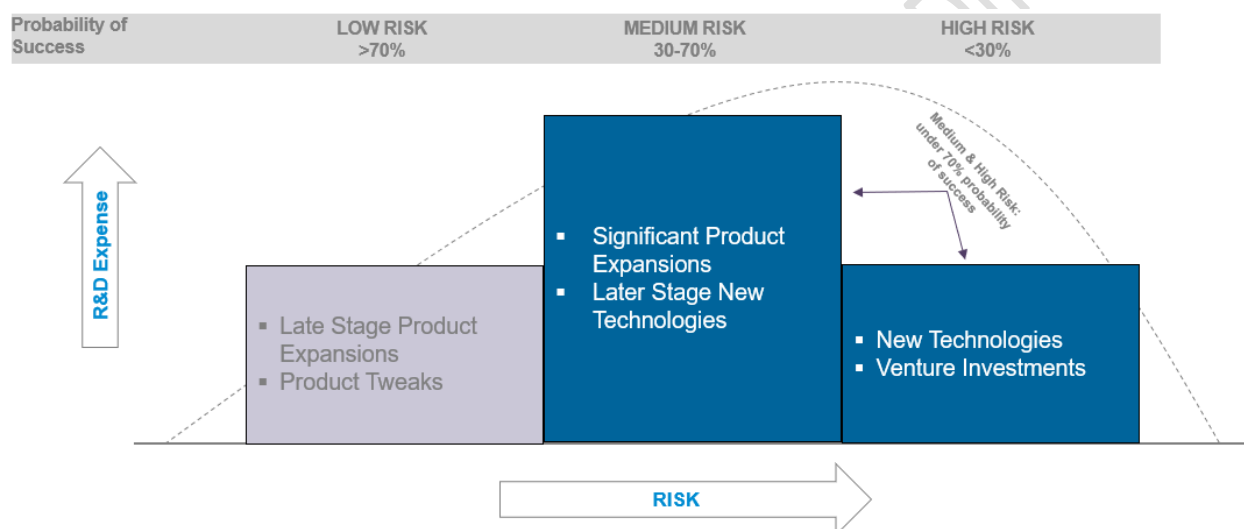
- Whether development spending for the program has a clear start and end point, tied to market based clear technical requirements;
- Whether risk associated with achieving technical requirements is medium to high (*refer to Figure 4*);
- Whether there is a risk that the R&D product does not meet specifications;
- Whether there is salvage value to the IP in the event of failure;
- Whether there is a possibility the product could fail before clearing required approvals (regulatory or otherwise);
- Whether the R&D spend would be complete prior to the first unit sales; and
- Whether a clearly defined revenue stream exists that can be tied directly to sales of the IP product.

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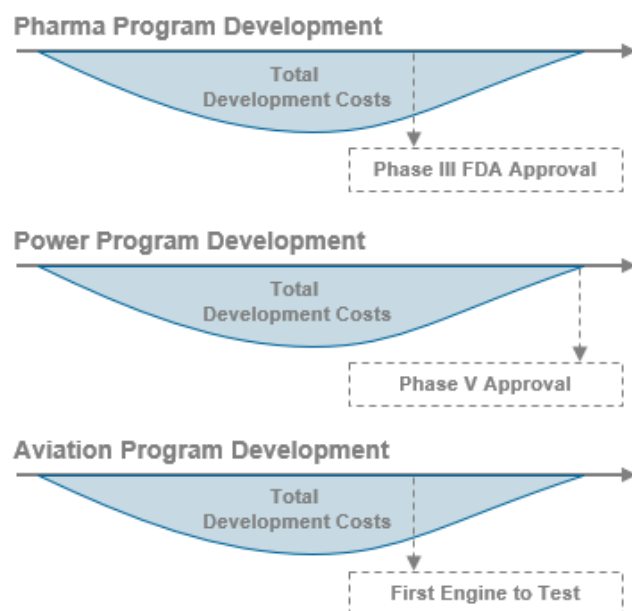
The stage of completion of the R&D program may also be indicative as to whether the R&D will produce IP where realization of future economic benefits is probable. Typically, the later the R&D program phase, the less risky the R&D program, as the IP is typically more developed and tested in later program phases. Further, there are different risks associated with the type of product being developed. For instance, if an R&D program is based primarily on the technology of existing products (“derivative program investment”), this is likely to create a lower risk profile than R&D programs which are attempting to create new products/IP that are not currently in existence. Phases in an R&D program life are detailed below and in Figure 4.

- Low Risk: Tail-end of product expansion investment
- Medium Risk: Inception of product expansion investment
- High Risk: New program investment

Figure 4: Product development phases and risk to investor



Investment should be made before technological success is guaranteed to transfer substantive and genuine R&D risk to the investor. While investment in medium- to high-risk R&D programs may indicate that an investor is assuming risk without a high probability of successful completion of the R&D into IP, there are situations where an investor enters into a R&D funding arrangement in the Low Risk R&D program phase, where they are able to demonstrate that transfer of financial risk is substantive and genuine. For example, there may be a ‘hurdle’ requirement that the IC or R&D Entity needs to pass before being able to realize the economic benefits of the IP (i.e., there is a chance the IP product will not pass the hurdle requirement and therefore economic benefits may not be able to be realized). Thus in such a situation, risk transferred to investors funding the R&D program prior to the hurdle requirement being satisfied could demonstrate a substantive and genuine transfer of risk to the investor.

Figure 5: Example hurdles required to be passed in Low Risk R&D program phases

IV. Accounting Considerations

While the benefits of an R&D funding arrangement have been outlined in Section II, an IC should also consider the related accounting impacts of the arrangement as the funding received could have various accounting recognition outcomes: liability, non-controlling interest, income, contra expense, etc. An IC should understand the risks associated with the R&D program being funded, as well as the obligations of the IC to the investor. These factors may inform the IC's decision about which accounting literature is applicable to the R&D funding arrangement and ultimately the accounting and financial reporting treatment.

The following outlines the accounting considerations for these arrangements in accordance with U.S. Generally Accepted Accounting Principles ("US GAAP") Accounting Standard Codifications ("ASC") as detailed below.

Specific facts and circumstances for each R&D program will need to be considered to determine the actual accounting and financial reporting for R&D funding arrangements.

Accounting Guidance

- ASC 323 *Investments-Equity Method and Joint Ventures*
- ASC 340 *Other Assets and Deferred Costs*
- ASC 470 *Debt*
- ASC 606 *Revenue from Contracts with Customers*
- ASC 730-20 *Research and Development Arrangements*
- ASC 805 *Business Combinations*
- ASC 808 *Collaborative Arrangements*
- ASC 810-10 *Consolidation of Variable Interest Entities*
- ASC 810-30 *Research and Development Arrangements*

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Accounting Questions

1. What accounting considerations are relevant for R&D Funding Arrangements?
2. How should an IC account for R&D funding received via a contract arrangement?
3. For JV arrangement, does the IC consolidate the JV?
4. How should an IC account for R&D funding through a consolidated JV arrangement?
5. How should an IC account for an unconsolidated JV arrangement?

Accounting Question 1: What accounting considerations are relevant for R&D funding arrangements?

When determining the appropriate accounting treatment of funding received by the IC in connection with a R&D program, consideration should first be given as to whether any of the provisions of ASC 470-10-25, *Debt Recognition*, will apply. ASC 470-10-25 covers sales of future revenue where there is an existing or probable revenue stream sold to the investor. Typically, if ASC 470-10-25 applies, the funding received would be classified as debt by the IC.

With regards to the transactions summarized herein, the outcome of the R&D activities will not be probable at the time the investor provides funding. Hence, the transactions are not intended to represent the sale of a future revenue stream as the existence of any revenue stream derived from R&D will not be probable. Thus, ASC 470-10-25 will not apply to these arrangements.

Once it is determined that ASC 470 does not require the funding received to be accounted for as debt (i.e., the sale of future revenue), then a determination needs to be made as to whether the funding received represents an obligation of the IC to repay the investor (i.e., a liability). In accordance with ASC 730-20-25-2, this assessment is performed when the IC enters the funding arrangement with the investor.

To support the conclusion that a liability does not exist, the transfer of the financial risk involved with R&D from the IC to the investor must be substantive and genuine. To the extent that the IC has committed to repay any of the funds provided by the investor regardless of the outcome of the R&D, all or part of the risk has not been transferred.

With regards to the transactions summarized herein, it is intended that the transactions will not have any of the above noted characteristics. That is, the investors funding will be exposed to the full risk of the R&D program with absolutely no direct or indirect guarantee made by the IC for the return of such funding either through cash payment or by any other means. Furthermore, the R&D program subject to such funding will not be substantially complete but rather be in the initial phases whereby the risk taken on by the investor is substantive and genuine. Thus, it is expected that these arrangements will not be accounted for as a liability under ASC 730.

Furthermore, while the contemplated transactions do not include the following, it is important to note that there may be additional deal structures that can raise significant doubt regarding whether a transfer of R&D risk is substantive and genuine. These circumstances include, but are not limited to the following. To the extent that negotiations consider such terms, further analysis would be required.

- a) *Multiple products covered by the R&D funding arrangement:* An investor's risk is reduced by increasing the number of products covered by the R&D funding arrangement; such circumstances must be carefully evaluated, and other factors (e.g., number of products, stage of development of each, payment mechanisms) would be important. Each product will have separate contracts with no cross-collateralization

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- b) *Repayment upon achievement of development milestones:* An investor's risk is reduced if repayment is triggered upon achievement of an event before a hurdle is cleared (e.g., regulatory approval).
- c) *Substitution rights:* An investor's risk is reduced by the IC having the right to replace a failed R&D program in the R&D arrangement with one or more R&D programs that still have the potential to be commercialized.
- d) *Rights to unrelated revenue streams:* An investor's risk is reduced by incorporating rights to cash flows from an unrelated revenue stream, such as a royalty on a separate and distinct product for which the investor did not fund the related R&D.

Once it has been determined that the R&D funding received should not be classified as debt under ASC 470 or a liability under ASC 730, then the specifics of each arrangement should be considered in accordance with relevant guidance. *See Accounting Questions 2 through 5 for details.*

Accounting Question 2: How should an IC account for R&D funding received via a contract arrangement?

Once an IC has concluded that the funding received by an investor does not constitute a liability (see *Accounting Question 1 for details*), if the investor meets the definition of a customer, the R&D funding arrangement would be accounted for under ASC 606, *Revenue from Contracts with Customers*². If the funding party does not meet the definition of a customer, then other accounting guidance may apply for example, ASC 808, *Collaborative Arrangements*³. This determination of whether the investor is a customer, considers whether the investor has contracted with the IC for R&D services which are the output of the IC's ordinary activities (e.g., consistent with the IC's central operations or the IC regularly performs research and development on behalf of others).

Investor is a customer of the IC

If the investor is considered a customer, the IC would apply the revenue recognition model in ASC 606, and funding received would be recognized as revenue in a pattern that depicts the transfer of the R&D services to the investor in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for the R&D services. Furthermore, in such situations, revenue classification in the income statement may be appropriate. However, investor will not likely be considered a customer, and ASC 606 is unlikely to apply.

Investor is not a customer of the IC

If the investor is not considered a customer and the R&D services are inconsistent with the IC's central operations, then the transaction would not be accounted for under ASC 606. In such circumstance, it may be more appropriate to classify funding received as contra-R&D expense or other income.

In determining whether to classify the R&D funding as contra-R&D expense or other income, an IC may consider the extent of the involvement of the investor in the R&D effort. For example, if the investor is actively involved through participation on a joint steering committee or in the performance of certain R&D

² If ASC 606 is not yet effective for the IC (e.g. if the IC is a private company who have not elected to early-adopt), then the R&D funding arrangement should be evaluated under ASC 605 *Revenue Recognition* until ASC 606 is effective.

³ As ASC 808 does not provide recognition and measurement guidance for collaborative arrangements, an IC that concludes that its arrangement is in scope of ASC 808 will need to apply a reasonable, rational and consistent accounting policy for those arrangements, which may include analogizing to ASC 606.

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activities, classification as contra-R&D expense may be appropriate. However, if the investor is only passively involved, classification as other income may be more appropriate.

Illustrative journal entries*

Upon receiving funding

DR. Cash
CR. R&D Funding Advance

Upon incurring R&D expenses and recognizing the related funding benefit

DR. R&D expense
DR. R&D Funding Advance
CR. R&D Expense / Other Income
CR. Cash

Upon royalties being paid from the IC to the investor

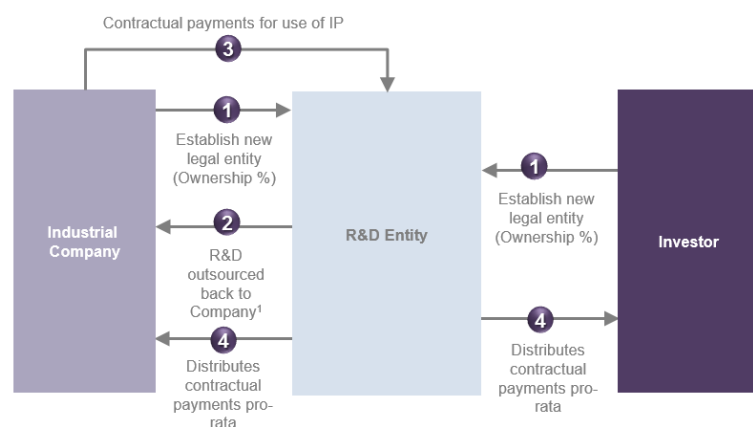
DR. Expense
CR. Cash

**Specific facts and circumstances in each R&D program will need to be considered to determine the actual recognition and measurement for R&D funding*

Accounting Question 3: For JV arrangement, does the IC consolidate the JV?

When an R&D arrangement involves the formation of a legal entity, consideration must be given to the consolidation guidance in ASC 810 to determine whether the IC is required to consolidate the legal entity. A detailed evaluation of the specific facts and circumstances in each R&D program will need to be considered to determine the consolidation conclusion. The following depicts an illustrative example of a JV transaction.

Figure 6: Example of R&D funding arrangement by JV



Note: (1) Other potential prior IP licensing may be required from IC to R&D Entity

The above diagram assumes the following for purposes of presenting an illustrative example:

- The R&D Entity is owned by the IC and by the investor;

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- The IC provides R&D services to the R&D Entity at market rates;
- Neither party has any call or put options on the others equity interest in the JV;
- The IC does not have a call option on the R&D if developed;
- If the R&D program is successful, the R&D Entity will own the IP and the IC will license the IP from the R&D Entity in exchange for royalty payments;
- The IC and the investor are not related parties or de facto agents; and
- Accounting is performed in accordance with US GAAP at both the IC and the R&D Entity.

The consolidation guidance under ASC 810 prescribes two primary models for determining consolidation treatment; the variable interest entity (“VIE”) model and the voting interest entity model. Considerations for both models will be considered for this section.

VIE Model

The key consolidation considerations under the VIE model have been outlined in the following 3 sections.

1. Considerations for whether the R&D Entity considered a VIE

To be considered a VIE, the R&D Entity must meet the any one of criterion provided in ASC 810-10-15-14(a) through 15-14(c).

VIE Criteria	Applicability to the R&D Entity
a) The total equity investment in the R&D Entity is not sufficient to permit the IC to finance its activities without additional subordinated financial support.	It is expected that the R&D Entity will be financed entirely with equity investments at risk. Therefore, it is expected that the R&D Entity’s equity investment will be sufficient to finance the R&D Entity’s activities, without additional financing.
b) As a group the holders of the equity investment at risk lack any one of the following three characteristics; 1. Power, through voting rights or similar rights, to direct the activities of the R&D Entity that most significantly impact the entity’s economic performance; 2. Obligation to absorb the expected losses of the R&D Entity; or 3. Right to receive the expected residual returns of the R&D Entity.	The specific facts and circumstances will need to be evaluated to determine whether this criterion is met. Depending on the contractual terms of the arrangement (e.g., governing structure of the entity, voting rights of the equity holders, decision making rights afforded through the R&D service contract, economics of the license agreement, etc.), the IC and the investors considered as a group may lack the characteristic in (b)(1) through (3).
c) The equity investors as a group also are considered to lack the characteristic in (b)(1) if both of the following conditions are present: 1. The voting rights of some investors are not proportional to their obligations to absorb / receive the expected losses / residual returns of the R&D Entity; and	The specific facts and circumstances will need to be evaluated to determine whether there is disproportionality. Depending on the contractual terms of the arrangement (e.g., governing structure of the entity and voting rights

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2. Substantially all of the R&D Entity's activities either involve or are conducted on behalf of an investor that has disproportionately few voting rights.	of the equity holders), the IC and the investor may have voting rights that are proportional to their obligation to absorb losses or receive returns. Furthermore, careful consideration will need to be given to determine whether substantially all of the R&D Entity's activities involve or are conducted on behalf of the IC, if it is the party with disproportionately few voting rights.
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2. Considerations for whether the IC has a variable interest in the R&D Entity

Variable interest are investments that absorb portions of a VIE's expected losses or receive portions of the VIE's expected residual returns. The identification of variable interest requires an economic analysis of the rights and obligations of the IC's assets, liabilities, equity, and other contracts.

Below details some relevant factors to consider in an IC's analysis as to whether they have a variable interest in the R&D Entity.

Potential variable interest	Description	Applicability to IC
Equity	Equity investments in the R&D Entity are variable interests to the extent they are at risk. Equity is considered at risk if all of the following conditions exist: - Includes only equity investments in the R&D Entity that participate significantly in profits and losses even if those investments do not carry voting rights; - Does not include equity interests that the R&D Entity issued in exchange for subordinated interests in other VIEs; - Does not include amounts provided to the IC directly or indirectly by the R&D Entity or by other parties involved with the R&D Entity; and - Does not include amounts financed for the IC directly by the R&D Entity.	The IC likely has equity investment considered at risk in the R&D Entity through their equity investment, and therefore the IC has a variable interest.
R&D service contract	Service fees are not considered variable interests if all of the following are met - If the fees are commensurate with the level of effort required to provide R&D services (e.g., services performed at market rates); - The IC does not have any other interests in the R&D Entity that individually, or in aggregate absorb / receive more than an insignificant amount of the VIE's expected losses / residual returns; and	Assuming the R&D Service are provided at market rates, and all other variable interests do not absorb more than an insignificant amount of the VIE's expected losses or residual returns, the service fee is not

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	- The services includes terms, conditions or amounts that are present in similar arrangements negotiated at arm’s length.	likely to represent a variable interest.										
Put or Call Options	Within the R&D funding arrangement, there may be derivative instruments such as put or call option relating to the purchase/sale of IP developed by the R&D Entity. These derivative instruments can either create, or absorb fair value and/or cash flow variability. - Derivative contracts that do not absorb the R&D Entity’s variability are not variable interests; - Derivative contracts that do absorb the R&D Entity’s variability may need further analysis as to whether they are variable interests. Common derivative contracts that may be applicable to the R&D funding arrangement are detailed in the table below. These examples detail whether the derivative contract generally absorbs fair value and/or cash variability. Specific facts and circumstances will need to be considered to conclude the nature of variability absorbed (if any) for each contract. <table><tr><th>Derivative type & description</th><th>Nature of variability absorbed (if any)</th></tr><tr><td><i>Written put</i> IC has the right to sell assets to the R&D Entity at a price other than their fair value</td><td>Written put contracts generally create rather than absorb variability.</td></tr><tr><td><i>Purchased put</i> R&D Entity has the right to sell assets to the IC at a price other than their fair value</td><td>Purchased put contracts may absorb fair value and/or cash flow variability</td></tr><tr><td><i>Written call</i> IC has the right to purchase assets from the R&D Entity at a price other than fair value</td><td>Written call contracts may absorb fair value and/or cash flow variability</td></tr><tr><td><i>Purchased call</i> R&D Entity has the right to purchase assets from the IC at a price other than fair value</td><td>Purchased call contracts generally create rather than absorb variability</td></tr></table>	Derivative type & description	Nature of variability absorbed (if any)	<i>Written put</i> IC has the right to sell assets to the R&D Entity at a price other than their fair value	Written put contracts generally create rather than absorb variability.	<i>Purchased put</i> R&D Entity has the right to sell assets to the IC at a price other than their fair value	Purchased put contracts may absorb fair value and/or cash flow variability	<i>Written call</i> IC has the right to purchase assets from the R&D Entity at a price other than fair value	Written call contracts may absorb fair value and/or cash flow variability	<i>Purchased call</i> R&D Entity has the right to purchase assets from the IC at a price other than fair value	Purchased call contracts generally create rather than absorb variability	If the IC enters into any put or call option with the R&D Entity, (for example, to purchase or cause the R&D entity to sell the IP asset once successfully developed) careful consideration should be given as to whether the option represents a variable interest that the IC holds in the R&D Entity. If such purchase or sale option contracts are priced at fair value, or create rather than absorb variability of the R&D Entity, it is unlikely that they will represent a variable interest.
Derivative type & description	Nature of variability absorbed (if any)											
<i>Written put</i> IC has the right to sell assets to the R&D Entity at a price other than their fair value	Written put contracts generally create rather than absorb variability.											
<i>Purchased put</i> R&D Entity has the right to sell assets to the IC at a price other than their fair value	Purchased put contracts may absorb fair value and/or cash flow variability											
<i>Written call</i> IC has the right to purchase assets from the R&D Entity at a price other than fair value	Written call contracts may absorb fair value and/or cash flow variability											
<i>Purchased call</i> R&D Entity has the right to purchase assets from the IC at a price other than fair value	Purchased call contracts generally create rather than absorb variability											

Limited partnership vs corporate-form entity

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The analysis of whether the R&D Entity is a VIE under ASC subparagraph ASC 810-10-15-14(b)(1) differs for limited partnerships and corporations. Consequently, the determination of whether the R&D Entity is similar to a limited partnership is necessary for this purpose.

Entity similar to a limited partnership

An entity is similar to a limited partnership when it has “governing provisions that are the functional equivalent of a limited partnership.” Typically, these have a single investor that is responsible for managing the entity’s operations. A key feature that distinguishes entities that are similar to limited partnerships from other entities with an outsourced manager is that the manager’s decision-making authority in an entity that is similar to a limited partnership is conveyed through an equity interest.

A R&D Entity which is determined to have a governing structure of a partnership or similar to a partnership is presumed to be a VIE unless the limited partners have substantive participating rights or kick-out rights over the general partner.

As the IC could potentially retain decision making authority through the R&D services contract, the R&D Entity may not be considered a limited partnership.

Corporate-form entity

As the R&D Entity may not meet the criteria to be considered a limited partnership, as the IC’s decision-making authority is not conveyed through an equity investment, but rather the an R&D Services contract with the R&D Entity, the R&D Entity may be considered a corporate-form entity. Careful consideration will need to be given to the governing provisions of the R&D Entity.

3. Considerations for the primary beneficiary (“PB”) of the R&D Entity

If the R&D Entity is considered a VIE, there is an analysis required to determine whether any parties involved with the R&D Entity have a controlling financial interest in the R&D Entity, and therefore are considered the PB, and are be required to consolidate the R&D Entity.

ASC 810-10-25-38A provides that the IC is deemed to be the primary beneficiary if it meets **both** criteria below:

- a) *Power Criterion:* Power to direct activities of the VIE that most significantly impact the VIE’s economic performance.
- b) *Losses/Benefits Criterion:* Obligation to absorb losses from or the right to receive benefits of the VIE that could potentially be significant to the VIE.

Only one reporting entity (if any) is expected to be identified as the primary beneficiary of a VIE. Although more than one reporting entity could meet the losses/ benefits criterion, only one reporting entity (if any) will have the power to direct the activities of a VIE that most significantly impact the VIE’s economic performance.

Considerations for PB Analysis	Description
PB must hold a variable interest	For the IC to be considered a PB of the R&D Entity, the IC must hold a variable interest in the R&D Entity.
The significant activities that impact	The PB analysis needs to determine the activities of the R&D Entity that most significantly impact economic performance of the R&D Entity. This may differ

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the R&D Entity's economic performance	depending on which stage the R&D Entity is in the developing the IP product (e.g., if in R&D phase, this could be the R&D activities, however if IP is developed, this could be the commercialization activities).
Shared power arrangements	If it is concluded that shared power arrangements exist (i.e., that neither the IC nor the investor has the power to direct the activities that most significantly impact the R&D Entity's economic performance) then no PB exists. This may occur if all significant decisions of the R&D Entity require the unanimous approval of both equity investor. Careful consideration will need to be given to identify the most significant decisions to ensure that shared power exists.
Decision-making rights conveyed through a variable interest decision maker fee	If the IC has equity at risk, but does not control the R&D Entity through its equity interest, this does not preclude the IC from being considered the R&D Entity's PB. That is, if the IC has the power to direct the activities of the R&D Entity through a service agreement that is deemed to be a variable interest, then it may meet the power criterion and be deemed the R&D Entity's primary beneficiary.
Decision-making rights conveyed through a non-variable interest decision maker fee	If the IC directs the activities that most significantly impact the R&D Entity's economic performance but its decision-making rights are conveyed through a non-variable-interest decision maker fee (e.g., compensation for R&D services); then the IC may not meet the power criterion and cannot be the R&D Entity's primary beneficiary.
Losses/benefits criterion	The terms losses of the entity and benefits from the entity are not limited only to US GAAP profits or losses. This concept implies that the economic utility of other assets should be considered in the analysis (e.g., even though the R&D may not derive net income from an arrangement, other benefits may need to be considered).

Voting Model

Under the voting interest entity model, the party with a controlling financial interest is required to consolidate the R&D Entity. This differs whether the R&D Entity is considered a limited partnership or corporate-form entity (*refer to Section "Limited partnership vs corporate-form entity" above*).

For legal entities other than limited partnerships, the usual condition for a controlling financial interest is ownership by one reporting entity, directly or indirectly, of more than 50 percent of the outstanding voting shares of another entity.

For limited partnerships, the usual condition for a controlling financial interest is ownership by one limited partner, directly or indirectly, of more than 50 percent of the limited partnership's kick-out rights through voting interests. If noncontrolling shareholders or limited partners have substantive participating rights, then the majority shareholder or limited partner with a majority of kick-out rights would not have a controlling financial interest.

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Accounting Question 4: How should an IC account for R&D funding through a consolidated JV arrangement?

The accounting and financial reporting considerations presented in this question assumes the following with respect to a R&D funding arrangement between an IC and the investor.

- The IC is required to consolidate the R&D Entity in accordance with ASC 810 (i.e., the IC has a controlling financial interest in the R&D Entity under the VIE model or the voting interest model);
- The investor has equity ownership of the R&D Entity (i.e., funding is not provided through a debt instrument issued by the R&D Entity);
- Cash provided by the investor to the R&D Entity can only be used for the purposes of funding R&D programs;
- Accounting is performed in accordance with US GAAP at both the IC and the R&D Entity; and
- Any arrangements or transactions between the IC and the R&D Entity will be eliminated in consolidation.

As discussed in Accounting Question 1, provided the funding received by the R&D Entity does not meet the characteristics of debt in accordance with ASC 470-10-25, the IC is required to present the funding received by the investor as noncontrolling interest (“NCI”) in the R&D Entity.

IC illustrative consolidated journal entries*

Upon capital provided by investor to R&D Entity

DR. Cash

CR. NCI in R&D Entity

Furthermore, as the cash contributed by the investor is assumed to be utilized only for the purposes of the R&D programs, in accordance with ASC 810-30-25-3(a), the cash recognized may be required to be reclassified to restricted cash.

DR. Restricted Cash

CR. Cash

Subsequent accounting and intercompany transactions/eliminations

With regard to the intercompany transactions and eliminations (i.e., between the IC and R&D Entity), once the R&D Entity is consolidated, subsequent accounting will differ depending on the consolidation model applied; the VIE model or the voting interest entity model.

One significant difference that exists between the subsequent measurement requirements for VIEs and voting interest entities is that the guidance in the VIE subsections of ASC 810-10 does not permit the elimination of intercompany profits or losses (including intercompany fees) to be attributed to the noncontrolling interests. That is, the effect of intercompany eliminations must be attributed solely to the primary beneficiary. This differs from the guidance for voting interest entities in ASC 810-10-45-18, which states that the elimination of intra-entity income or loss may be allocated between the parent and noncontrolling interests.

In general, calculating the amount of a subsidiary’s net income to attribute to noncontrolling interests based on the subsidiary’s post-elimination net income is consistent with the guidance in ASC 810-10-45-18 for voting interest entities. Conversely, calculating the amount of a subsidiary’s net income to attribute to noncontrolling interests on the basis of the subsidiary’s pre-elimination net income generally is consistent

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with the ASC 810-10-35-3 requirements for VIEs. As such, it should be noted that there may be differences in consolidated amounts under the VIE and the voting interest model.

For intercompany transactions, the IC may maintain separate ledgers for the IC and R&D Entity transactions which will ultimately be eliminated. To the extent that there are amounts attributable to the NCI holder (i.e., the investor), the amounts should be recognized by the IC as income associated with NCI.

Contractual payments/distribution to investor

As the noted in the assumption, the investor is a holder of equity in the R&D Entity. As such, the distribution of the payments to the investor is a form of divided or return on investment to the investor.

DR. NCI (reduction in NCI)

CR. Cash

**Specific facts and circumstances in each R&D program will need to be considered to determine the actual recognition and measurement for R&D funding and JV structure.*

Accounting Question 5: How should an IC account for an unconsolidated JV arrangement?

If the IC is not required to consolidate the R&D Entity in accordance with ASC 810 (i.e., the IC does not have a controlling financial interest in the R&D Entity under the VIE model or the voting interest model), then the R&D funding arrangement may need to be presented in accordance with the equity method of accounting for investments under ASC 323.

The accounting and financial reporting considerations presented in this question assumes the following with respect to a R&D funding arrangement established by an IC and the investor.

- The IC is not required to consolidate the R&D Entity in accordance with ASC 810;
- Both the IC and the investor have equity ownership in the R&D Entity (i.e., funding not provided through a debt instrument issued by the JV);
- The R&D services provided by the IC to the R&D Entity are on an arm's length basis and are in scope of ASC 606 (or ASC 605 if ASC 606 has not yet been adopted);
- If the R&D services are successful in developing an IP product, the R&D Entity will license the IP product to the IC in exchange for cash consideration;
- Accounting is performed in accordance with US GAAP at both the IC and the R&D Entity; and
- The IC has the ability to significantly influence the operating or financial decisions of the R&D Entity through the R&D services arrangement, even with an ownership interest of less than 10%.

Refer to Figure 6 for additional information for the structure considered in the below analysis.

Under ASC 323, the equity method outlines a 'one line' presentation of the IC interest in the R&D Entity in the IC's financial statements. Accordingly, the investment in the R&D Entity will be presented as an asset of the IC and initially measured at cost in accordance with the guidance in Section 323-10-30.

After initial recognition of the equity method investment, the IC will account for its investment in the R&D Entity under the provisions of ASC 323-10-35 which covers subsequent accounting for investments in corporate joint ventures (as defined in ASC 323-20 *Investments-Equity Method and Joint Ventures, Glossary*) as well as investments in other investees that are in scope of ASC 323. Under ASC 323-10-35 the IC is required to adjust the carrying amount of the investment in the R&D Entity for the IC share of earnings or losses of the R&D Entity after the date of investment, and those recognized earnings or losses should be reported in income. The IC should recognize its share of the earnings or losses of the R&D Entity

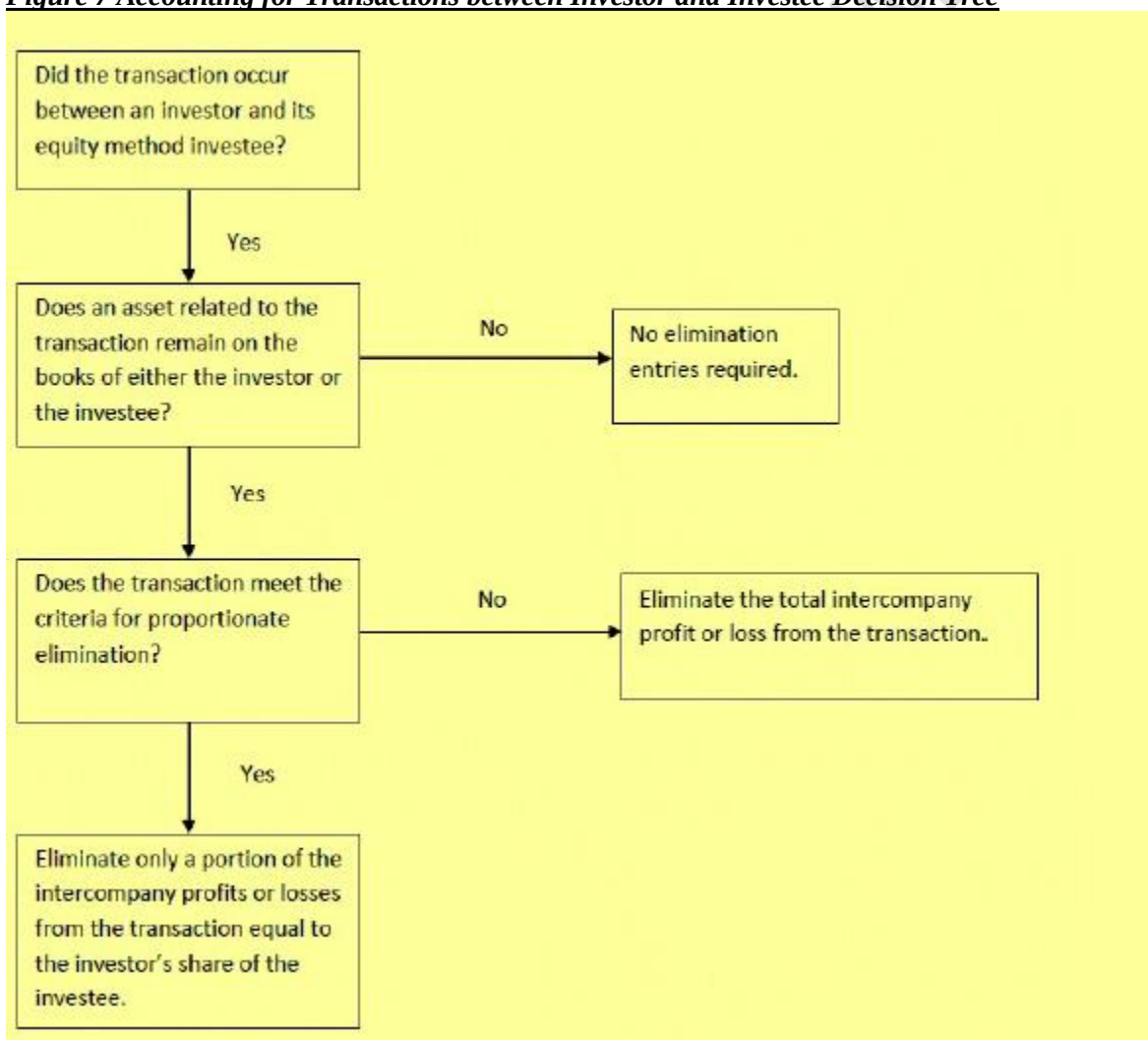
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in the period for which they are reported by the R&D Entity in its financial statements, rather than the period the R&D Entity declares dividends.

Furthermore, per ASC 323-10-35-11, an IC may be required to eliminate intra-entity profit in relation to its interest in the R&D Entity. In these circumstances, the percentage of intra-entity profit to be eliminated would be the same regardless of whether the transaction is downstream (that is, a sale by the IC to the R&D Entity) or upstream (that is, a sale by the R&D Entity to the IC). This guidance applies to situations where the asset related to the transaction remains on the books of either the IC or the R&D Entity, and may result in the IC partially or totally eliminating the balance sheet and income statement intra-entity earning or losses as a result of the transaction. This differs from the consolidation method which eliminates all intra-entity profit or loss.

Note, if the IC or the R&D Entity have adopted ASC 606, and the sale is in the scope of ASC 606, the transaction will first be subject to ASC 606 before the intra-entity profit elimination guidance is applied.

Figure 7 Accounting for Transactions between Investor and Investee Decision Tree



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The approach whereby the investor eliminates only the intra-entity profit equal to its share of the investee, referred to as the proportionate elimination approach, is generally appropriate when:

- The investor does not control the investee, or
- The intra-entity transactions are arm's-length transactions.

IC illustrative consolidated journal entries*

Upon capital provided by IC to R&D Entity

DR. Investment in R&D Entity JV (at cost)

DR. Cash / Other Asset

Upon IC earning revenue and incurring costs associated with the R&D service arrangement between the IC and the R&D Entity

This will likely follow the accounting by contract as detailed in Accounting Question 2, under ASC 606.

DR. Cash (payment received from R&D Entity)

CR. Revenue**

DR. R&D Expense / Operating Expense

CR. Cash (payment of expenses to employees or third parties)

The expenses incurred will likely be presented on a gross basis, as the R&D services are as separately contracted performance obligation of the IC, separately from the initial IC investment.

**Note, if the R&D Entity is not a customer, the R&D expense credit entry by the IC may be recorded Other Income/Contra Expense. Refer to Accounting Question 2 for further details.

Elimination related to the intra-entity R&D services arrangement

As the characteristics necessary for proportionate elimination likely exist for the R&D services arrangement between the IC and R&D Entity, only a portion of the intercompany profits or losses from the transaction will be eliminated, to the extent that they relate to the IC's share of the R&D Entity.

The IC should give consideration to the decision tree detailed in Figure 7 and record the necessary entries, dependent on the facts and circumstances of the arrangement.

Payment by IC to R&D Entity for license of IP after successful development of IP product

As the IP asset remains an asset of the R&D Entity:

DR. Expense

CR. Cash

Elimination related to the intra-entity IP license arrangement

As the characteristics necessary for proportionate elimination likely exist in the license transaction between the IC and R&D Entity, and an IP asset subject to the intra-entity transaction remains on the books the R&D Entity, the IC may eliminate only its share of the profit included in the IC asset.

Distribution to IC by R&D Entity (as IC is an equity owner of R&D Entity)

As the noted in the assumption, the IC is a holder of equity in the R&D Entity. As such, distributions made by the R&D Entity to the IC under the terms of the equity instrument may be accounted for as a form of dividend or return on investment to the investor.

DR. Cash

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CR. Equity Method Investment

Periodic equity method entries

As required by ASC 323-10-35-4, each reporting period, the IC shall recognize its share of earnings or losses of the R&D Entity in the period the R&D Entity reports in their financial statements. The IC will adjust the carrying amount of the investment in the R&D Entity by the IC share of the earnings or losses of the R&D Entity.

Earnings

DR. Equity method investment

CR. Equity method income

Losses

DR. Equity method loss

CR. Equity method investment

**Specific facts and circumstances in each R&D program will need to be considered to determine the actual recognition and measurement for R&D funding and JV structure.*

Impairment of the IC investment in an R&D Entity

If the R&D program does not result in the successful development of an IP product, the IC's investment in the R&D Entity may be impaired. In accordance with ASC 323-10-35-32, a loss in value of an investment that is other than a temporary decline shall be recognized in earnings. Evidence of a loss in value of the IC's investment in the R&D Entity might include, but is not limited to, the following:

- Absence of an ability to recover the carrying amount of the investment;
- Inability of the R&D Entity to sustain an earnings capacity that would justify the carrying amount of the investment; or
- A current fair value of an investment that is less than its carrying amount may indicate a loss in value of the investment.

A decline in the market price below the carrying amount or the existence of operating losses is not necessarily indicative of a loss in investment value that is other than temporary. An IC should consider all factors in its evaluation of whether the investment has decreased in value.

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V. Example Programs

IDF is of the believe that examples 1 & 2 would achieve P&L offset with accounting below and example 3 would not achieve P&L offset:

	1. Next Gen Aircraft Engine	2. Next Gen Turbine	3. Minor Upgrade Package for Turbine
Description	- Development of large commercial aircraft engine with new units sales targeted of +1,500 globally - Will result in most fuel-efficient engine on a per-pounds-of-thrust basis - Designed to achieve significant fuel burn savings over its predecessor - Significant improvements to hot section and inclusion of ceramics parts for first time	- Repowering opportunity to develop the next generation turbine for a large existing Industrial fleet base of 1,200+ units globally - High efficiency, low cost turbines heavily desired for distributed power generation (supporting growth in renewables and smart micro grids) and LNG applications - Significant improvements to hot gas path and compressor	Minor upgrade to existing Industrial turbine with little technological risk
Geography	Global	Global	Global
Program Development Budget	\$5bn	\$240mm	\$20mm
Program Development Period	10 years	6 years	2 years
Commercial Period	20 year unit sales period (1,500 units, 0% Margin) 50 year service and spare part sales period (20% Margin)	20 year unit sales period (~360 units, 20% Margin) 50 year service and spare part sales period (50% Margin)	20 year service and spare part sales period
Technical Risk	Medium / High	Medium / High	Low
Commercial Risk	High	High	Low
Structure	- Contract method or JV method - Full risk share - No downside protection (possibility of full principal loss) - No put/call option	- Contract method or JV method - Full risk share - No downside protection (possibility of full principal loss) - No put/call option	- Debt method - Full risk share - Partial risk share-minimum return downside protection - Put option
Investors	- Financial investors with no strategic links to manufacturer - Royalty based (paid based on units sold, no share of service revenues)	- Financial investors with no strategic links to manufacturer - Royalty based (paid based on units sold, no share of service revenues)	- Financial investors with no strategic links to manufacturer - Royalty based (paid based on units sold, no share of service revenues)
Desired outcome	- R&D expense offset (Contract method), or - NCI improvement (JV method)	- R&D expense offset (Contract method), or - NCI improvement (JV method)	Amortization of debt

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VI. Example T-Accounts

Contract Method

SETUP STRUCTURE	R&D EXPENSE	SELL PRODUCT & PAY ROYALTIES
1 Record cash received from Investor for future R&D spending	2 Industrial incurs R&D expense 3 Allocate R&D funding	4 Record revenues from sales over life of Project 5 Pay royalty and distribute to Investor over life of Project
Balance Sheet Cash 1 \$250 Investor Funding \$250 1	Balance Sheet Cash \$500 2 Investor Funding 3 \$250 Income Statement R&D expense 2 \$500 \$250* 3	Balance Sheet Cash 4 \$8,000 \$640 5 Income Statement Revenue \$8,000 4 Royalty Expense 5 \$640
Net Income/(loss): \$0	Net Income/(loss): (\$250)	Net Income/(loss): \$7,360

R&D expense shown net on income statement

*Depending on facts and circumstances, may be classified as revenue, other income, or contra R&D expense

JV Method*

SETUP STRUCTURE	R&D EXPENSE	SELL PRODUCT & PAY ROYALTIES																																								
1 Record cash received from LLP for future R&D spending	2 Industrial incurs R&D expense 3 Allocate R&D expense to NCI	4 Record revenues from sales over life of Project 5 Pay royalty to LLP and distribute to Investor over life of Project																																								
Balance Sheet <table><tr><td>Cash</td><td></td></tr><tr><td>1 \$250</td><td></td></tr></table> <table><tr><td>Equity – NCI</td><td></td></tr><tr><td></td><td>\$250 1</td></tr></table>	Cash		1 \$250		Equity – NCI			\$250 1	Balance Sheet <table><tr><td>Cash</td><td></td></tr><tr><td></td><td>\$500 2</td></tr></table> <table><tr><td>Equity – NCI</td><td></td></tr><tr><td>3 \$250</td><td></td></tr></table> Income Statement <table><tr><td>R&D expense</td><td></td></tr><tr><td>2 \$500</td><td></td></tr></table> <table><tr><td>NCI Share of Income</td><td></td></tr><tr><td></td><td>\$250 3</td></tr></table>	Cash			\$500 2	Equity – NCI		3 \$250		R&D expense		2 \$500		NCI Share of Income			\$250 3	Balance Sheet <table><tr><td>Cash</td><td></td></tr><tr><td>4 \$8,000</td><td>\$640 5</td></tr></table> <table><tr><td>Equity – NCI</td><td></td></tr><tr><td>5 \$640</td><td>\$640 5</td></tr></table> Income Statement <table><tr><td>Revenue</td><td></td></tr><tr><td></td><td>\$8,000 4</td></tr></table> <table><tr><td>NCI Share of Income</td><td></td></tr><tr><td>5 \$640</td><td></td></tr></table>	Cash		4 \$8,000	\$640 5	Equity – NCI		5 \$640	\$640 5	Revenue			\$8,000 4	NCI Share of Income		5 \$640	
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Revenue																																										
	\$8,000 4																																									
NCI Share of Income																																										
5 \$640																																										
Net Income/(loss): \$0	Net Income/(loss): (\$500) Amount attributable to NCI: (\$250)	Net Income/(loss): \$8,000 Amount attributable to NCI: \$640																																								

*subject to specific facts and circumstances of JV scenario

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Debt Method

SETUP STRUCTURE

- ① Record cash received from investor for future R&D spending as debt

<i>Balance Sheet</i>	
Cash	
① \$250	
Debt	
	\$250 ①

Net Income/(loss): \$0

R&D EXPENSE

- ② Industrial incurs R&D expense

<i>Balance Sheet</i>	
Cash	
	\$500 ②
<i>Income Statement</i>	
R&D expense	
② \$500	

Net Income/(loss): (\$500)

SELL PRODUCT & PAY ROYAL TIES

- ④ Record revenues from sales over life of Project
⑤ Pay amortize debt as it is repaid through unit sales of program

<i>Balance Sheet</i>	
Cash	
④ \$8,000	\$640 ⑤
<i>Income Statement</i>	
Revenue	
	\$8,000 ④
Interest Expense	
⑤ \$640	

Net Income/(loss): \$7,360