**Pricing Intellectual Property Licenses—**

**Some Exercises**

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**Background Information for the Device**

A researcher at a major research university (University) developed the technology for a new light-emitting diode (LED) device (the Device). University has the patent rights to the Device, which is a single-patent product. The Device is quite revolutionary, and there is no existing technology that can replicate what it does. The holder of the Patent will be able to pursue the market for the Device with little to no competition for at least a few years. Competing technologies could develop, however, after a few years.

University filed a patent application for the Device in its home country six months ago. University also filed a Patent Cooperation Treaty (PCT) application. University anticipates the home-country patent will issue in one year. Device sales are not expected to begin until after the home-country patent issues. The home-country and foreign patents will collectively be referred to as the Patent.

**Exclusive License Scenarios**

University plans on licensing the Patent per the following details:

* **Exclusive license:** The license will be exclusive.
* **Limited field of use:** The Device was invented for commercial applications, and the license will be limited to use of the Device for such commercial applications.
* **Duration:** The license will run for the remaining life of the Patent (i.e., 19½ years).
* **Running sales royalty:** The royalty payment will be calculated as a running sales royalty.

There is one interested licensee for the Patent. The interested licensee is Acme Corp. (Acme). Acme is a large, well-established company with a strong business track record, including a strong track record for commercializing university-developed technology. Acme is local and will manufacture the Device in University’s home country.

Consider the following scenarios …

**Scenario 1**

The Device is a “late stage” technology. University has developed a “sales ready” version of the Device. University has demonstrated the Device can be mass produced cost-effectively. Very little additional development work is needed before expansive sales can start.

Acme projects Device sales of approximately $1 million per year with an operating margin of roughly 50 percent. Acme’s typical operating margin is 15 percent. University agrees with Acme’s projections. Acme has agreed to pay an up-front fee of $5,000.

What would be a rough estimate of the running sales royalty?

What happens if the Patent never issues?

How does the upfront fee facture into your analysis?

**Scenario 2**

The Device is an “early stage” technology. University has developed a working prototype, but has not developed a “sales ready” version of the Device. Substantial development work is needed to demonstrate the Device can be mass produced cost-effectively, but Acme is fairly confident it can be done.

Acme projects Device sales of approximately $1 million per year with an operating margin of roughly 50 percent. Acme’s typical operating margin is 15 percent. University agrees with Acme’s projections. Acme has agreed to pay an up-front fee of $5,000.

What would be a rough estimate of the running sales royalty?

**Scenario 3**

The Device is an “early stage” technology. University has developed a working prototype, but has not developed a “sales ready” version of the Device. Substantial development work is needed to demonstrate the Device can be mass produced cost-effectively. Acme estimates a 50 percent chance the Device will be a failure and a 50 percent chance it will be a commercial success.

If the Device is a success, Acme projects Device sales of approximately $1 million per year with an operating margin of roughly 50 percent. Acme’s typical operating margin is 15 percent. University agrees with Acme’s projections. Acme has agreed to pay an up-front fee of $5,000.

What would be a rough estimate of the running sales royalty?

**Scenario 4**

The Device is a “late stage” technology. University has developed a “sales ready” version of the Device. University has demonstrated the Device can be mass produced cost-effectively. Very little additional development work is needed before expansive sales can start.

Acme projects Device sales of approximately $1 million per year with an operating margin of roughly 50 percent. Acme’s typical operating margin is 15 percent. University disagrees with Acme’s operating margin projections. University estimates Device sales will generate an operating margin closer to 60 percent.

Acme has agreed to pay an up-front fee of $5,000.

What would be a rough estimate of the running sales royalty?

**Scenario 5**

The Device is an “early stage” technology. University has developed a working prototype, but has not developed a “sales ready” version of the Device. Substantial development work is needed to demonstrate the Device can be mass produced cost-effectively. Acme estimates a 50 percent chance the Device will be a failure and a 50 percent chance it will be a commercial success.

If the Device is a success, Acme projects Device sales of approximately $1 million per year with an operating margin of roughly 50 percent. Acme’s typical operating margin is 15 percent. University agrees with Acme’s probability estimate, but not is operating margin projections. University estimates Device sales will generate an operating margin closer to 60 percent.

Acme has agreed to pay an up-front fee of $5,000.

What would be a rough estimate of the running sales royalty?

**Scenario 6**

The Device is an “early stage” technology. University has developed a working prototype, but has not developed a “sales ready” version of the Device. Substantial development work is needed to demonstrate the Device can be mass produced cost-effectively. Acme estimates a 50 percent chance the Device will be a failure and a 50 percent chance it will be a commercial success.

Acme projects Device sales of approximately $1 million per year. However, Acme refuses to provide University with profit projections for the Device or its typical operating margin. Acme claims the information is a trade secret.

Acme has agreed to pay an up-front fee of $5,000.

Using the insight that the running sales royalty should involve sharing the operating margin improvement between licensor and licensee, how should University estimate the running sales royalty?

**Scenario 7**

The Device is an improved component for a highly-complex, multi-patent product (the Product). Acme does not intend to sell the Device directly to third parties. Rather, Acme intends to use the Device within the Product. By using the Device, Acme will improve its operating margins for the Product by 1 percent. University has developed a working prototype, but development work is needed to ensure the Device works properly within the Product.

Acme has agreed to pay an up-front fee of $5,000.

Using the insight that the running sales royalty should involve sharing the operating margin improvement between licensor and licensee, how should University estimate the running sales royalty?

**Non-Exclusive License Scenario**

University plans on licensing the Patent per the following details:

* **Non-exclusive license:** The licenses will be non-exclusive.
* **Limited field of use:** The Device was invented for commercial applications, and the license will be limited to use of the Device for such commercial applications.
* **Duration:** The licenses will run for the remaining life of the Patent (i.e., 19½ years).
* **Running sales royalty:** The royalty payment will be calculated as a running sales royalty.

Consider the following scenario …

**Scenario 8**

The Device can be manufactured and sold by a wide range of companies. As a result, University estimates there are between 50 and 100 potential licensees. Some of the licensees would be large, successful companies, while others would be small, struggling companies.

Using the insight that the running sales royalty should involve sharing the operating margin improvement between licensor and licensee, how should University estimate the running sales royalty for the non-exclusive licenses?