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Royalty Rate Analysis

Biometric Algorithm

SAMPLE

Developer's NAIC: 334119

Science/Technology Fields: Biometrics; Software Algorithms

Arena NAIC: 334119

Technology Type: Process

Supply Chain: Design and Development

International Patent Classification: G06K 9/00

Geographic Region: Global

Prepared by
Foresight Science & Technology
401-273-4844

Foresight Science & Technology, Inc. 34 Hayden Rowe St., Suite 300, Hopkinton, MA 01748
Voice: 401-273-4844; Fax: 401-354-1301; Web: <http://www.foresightst.com/>

Foresight Science & Technology Royalty Rate Reports combine market research with expert interviews to provide a detailed estimate of an industry average royalty rate that will assist in the valuation of your technology.

<i>Description of Technology</i>
This technology is an algorithm for biometric software.

<i>Examples of Relevant Deals</i>		
<i>Parties</i>	<i>Key Terms</i>	<i>Date</i>
Licensor: Tacoma Technology, Inc. And Licensee: Sequiam Biometrics, Inc.	Exclusive technology, trademark and Software license for a biometric algorithm for finger print matching. Royalty Rate: \$0.50 per unit of product manufactured and sold using this technology. (Actual percentage ranges based on type of device sold). Territory: Worldwide Duration: 1 year Other Payment Terms: Monthly Fee of \$7,000 ¹	November 1, 2007
Licensor: Ultra-Scan Corporation And Licensee: Infinite Group, Inc.	Non-Exclusive technology and patent license agreement to use and sell an ultrasound biometric imaging and identification in the fields of governmental and commercial purposes. Royalty Rate: 5% of net sales as indicated by later documents filed with the SEC by Infinite Group. Territory: Continental United States Duration: 2 years Other Payment Terms: Up-front free of \$10,000. ²	2003
Licensor: Applied Cryptography, Inc And	Exclusive patent license agreement for technology to develop software for identity verification for home and office computers. Royalty Rate: 2% of net sales from any product utilizing the	December 1, 2004

¹ “8-K for SEQUIAM CORP: Product License Agreement and Engineering Services Agreement.” SEC EDGAR web site. http://google.brand.edgar-online.com/EFX_dll/EDGARpro.dll?FetchFilingHtmlSection1?SectionID=5576435-5896-14944&SessionID=aGwRFFsgRbOF247 (accessed October 1, 2012).

² “EX-10/9 of 10KSB for INFINITE GROUP INC.: License Agreement.” SEC EDGAR web site. http://google.brand.edgar-online.com/EFX_dll/EDGARpro.dll?FetchFilingHTML1?ID=3809529&SessionID=pjOeWWQXC5jQP97 (accessed October 1, 2012).

Licensee: Smartmetric, Inc.	associated patent(s) Territory: Worldwide Duration: Life of Patent ³	
Licensor: Synergistic Holdings And Licensee: Acclera Innovations	Exclusive technology license for a proprietary software platform including biometric integration technology. Royalty Rate: 15% of gross revenues in the first year after products are sold on the market, 10% of gross revenue in second year, and 0.25% gross revenues each year following. Territory: Worldwide Duration: 30 years Other Payment Terms: Licensee must raise a minimum of \$30 million in funding to develop and commercialize the technology or Licensee will lose rights to the technology. 18,250,000 stock issued at .0001 (\$1,825) ⁴	2009
Licensor: Cogent And Licensee: Northrup Grummon Corp	Non-Exclusive license agreement for fingerprint identification software related technology. Royalty Rate: None Territory: Worldwide Duration: 3 years Other Payment Terms: \$15 million license fee to paid over the three years of the agreement at \$5 million each year. ⁵	January 2008
Licensor: Mr. Messina (individual inventor) And Licensee: Intellicheck Mobilisa, Inc.	Exclusive technology license for biometric related software. Royalty Rate: 005% on gross sales from \$2,000,000 to \$52,000,000 and .0025% on gross sales in excess of \$52,000,000 Territory: Worldwide Duration: 3 years. ⁶	1996

Based on the deals revealed above it appears as though royalty rates for biometric technologies seem to vary quite a bit. This could be due to the type of recognition system licensed, whether that be fingerprint, facial, voice or iris.

³ “10-K Smartmetric, Inc SEC Filing.” September 28, 2012. Morningstar web site (subscription required). <http://www.10kwizard.com> (accessed October 1, 2012).

⁴ “Form 10-K/A Acclera Innovations, Inc.” August 21, 2012. Morningstar web site (subscription required). <http://www.10kwizard.com> (accessed October 1, 2012).

⁵ “Form 10-Q Cogent, Inc.” November 8, 2010. Morningstar web site (subscription required). <http://www.10kwizard.com> (accessed October 1, 2012).

⁶ “Form 10-K Intellicheck Mobilisa, Inc.” March, 8, 2012. Morningstar web site (subscription required). <http://www.10kwizard.com> (accessed October 1, 2012).

Foresight would like to also note the deal between Synergistic Holdings and Accelera Innovations where the up-front was very minimal as well (provided as equity) due to the amount of development needed. While the royalties were fairly high for the first couple of years, the rate significantly decreased after two years on the market.

<i>Expert Opinions on Industry Standard Terms</i>		
Expert	Affiliation and Title	Key Terms
Valene Skerpac	Director iBiometrics	Ms. Skerpac mentioned she works mostly with voice biometrics, which is different than fingerprints as no sensor is required. This could reduce the royalties for a fingerprint algorithm as compared to a voice. Given that, an average rate of around 5% of net sales seems about right to Ms. Skerpac. She noted however, that in order to get this rate the technology has to be unique and mature enough to be installed directly into in an existing system without a lot of additional development required. In addition, Ms. Skerpac noted that gaining access to a customer base will also influence the deal terms. As such, fees in the low million (\$5-\$10 million) could be seen as appropriate if the licensee was a large company in the field with access to a large customer base. Again she noted this would be only for a truly unique technology. ⁷
Martin George	Chief Executive Officer Smart Sensors	Mr. George explained that he is very familiar with the biometrics market and has mainly licensed iris and voice authentication algorithms. He went on to say that the market is fairly crowded with many fingerprint algorithms in successful use worldwide. Many of them have been tested by the National Institute of Standards and Technology and the International Biometric Group. A new technology would need to be compared to an off-the-shelf algorithm to show its advantage to a licensee. In the case of fingerprint algorithms, Mr. George sees them as being a commodity and may decrease the fees one can expect to see in a license agreement. Mr. George said a royalty of \$0.5 to \$5 per fingerprint device might be acceptable. Most negotiations are based on large sales volumes and for immature technologies that require additional development an up-front fee between \$10,000 and \$50,000 is likely realistic, primarily if the source code is offered as well. Mr. George also suggested considered an advanced royalty deal if maximizing upfront cash is a key consideration. ⁸
Eric Wong	Chief Executive Office Recon Biometrics	Mr. Wong's company focuses on facial recognition as fingerprint algorithms are no longer "hot" in China due to the accuracy and the inexpensive price point (around \$10) for silicon fingerprints that can bypass this security

⁷ Valene Skerpac, Director iBiometrics, in an email exchange (valene@ibiometrics.com) with Claire Gaudreau on October 11, 2012.

⁸ Mr. Martin George, CEO Smart Sensors, in an email exchange (martin@smartsensors.co.uk) with Claire Gaudreau on October 11th, 2012.

		measure. Mr. Wong also explained that exclusivity is “meaningless” as there are so many available on the market.
Anonymous Expert	Development Manager Biometric Control Systems Company	This expert mentioned that for a fully mature technology that is already being sold on the market a royalty rate between 3% and 5% of net sales is about average. However, the expert went on to say that if the technology was a piece of an overall identification system that was to be sold on the market, a smaller royalty is more likely and probably would be a price per unit. When commenting on up-front fees the expert said that this would likely be low (under \$10,000).

When we take a look at the expert insights above and compare that to the one deal that specifically mentions fingerprint biometric identification between Tacoma Technology, Inc. and Sequiam Biometrics, Inc. we see some indication that fingerprint algorithms are not in high demand and may not wield significant fees in a license agreement. For immature technologies, the fees would be even lower. Most experts noted the fingerprint biometric market is crowded and a technology will need to show its added benefits and unique factors in order to obtain any kind of significant license fees.

There appears to be somewhat of a consensus on up-front fees in the low tens of thousands for a mature, market ready technology.

Foresight also spoke with an expert from a biometric software company who mentioned that it may be worthwhile waiting to license this type of technology until the Blue Spoke patent lawsuits are settled. The expert said Blue Spoke is suing a long list of companies for biometric algorithm infringements which could affect a number of potential licensees as well as the market landscape.

<i>Industry Average Royalty Rate</i>
4% of net sales for a mature, unique technology or 0.5 cents per unit.

The deal table and expert opinions revealed there are several parameters to take into account for this specific area of fingerprint biometrics. Firstly we would like to note the parameter of the licensee’s ability to address the marketplace and their current position in the market. The position of the licensor also falls under this parameter. The second parameter is the uniqueness of the technology in regards to its application (i.e. fundamental improvements in effectiveness or speed). The third parameter is the how the technology would be incorporated into a product being sold (i.e. is the technology creating a significant market differentiation which facilitates sales of the product or overall system).

As such, there are two extremes to assess averages for this type of technology. On one extreme you have a mature technology that is really unique that is being licensed to a large, dominant market player with a significant customer base. This scenario suggests a royalty rate of between 3%-5% of net sales with up-front fees in the 7 figure range.

At other extreme you have a fairly immature technology that is creating only an incremental improvement that is being licensed to a small market player. In this scenario the royalty could be as low as a fraction of a percent with up-front fees in the low thousands (under \$10,000).

Within such extreme variants it is very difficult to deliver an industry average royalty rate without further information as to nature of deal and the licensee. It would be valuable to refer to the royalty rate calculator within T2+2® to factor in the variables that spreadsheet notes as well as the variables highlighted in this report.

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