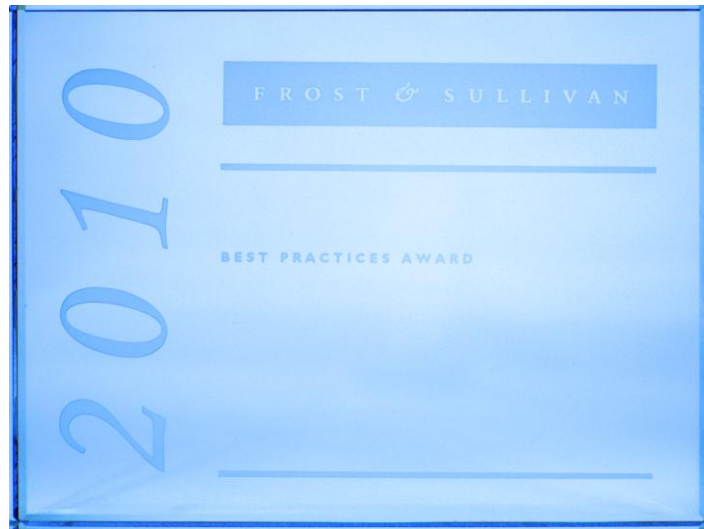


## Product Line Strategy, Biometrics Europe, 2010

### Frost & Sullivan's Global Research Platform

Frost & Sullivan is entering its 49<sup>th</sup> year in business with a global research organization of 1,800 analysts and consultants who monitor more than 300 industries and 250,000 companies. The Company's research philosophy originates with the CEO's 360 Degree Perspective,\* which in turn serves as the foundation of its TEAM Research\*\* methodology. This unique approach enables us to determine how best-in-class companies worldwide manage growth, innovation and leadership. Based on the findings of this Best Practices research, Frost & Sullivan is proud to present the 2010 Europe Product Line Strategy Award in fingerprint verification components and systems to Fingerprint Cards AB (FPC).



### Significance of the Product Line Strategy Award

#### Key Industry Challenges Addressed by Innovative Products and Technologies

The biometrics industry faces several key challenges, which can be effectively addressed by the implementation of sustainable strategic measures. For being successful in this fast-growing industry, companies must address each of these challenging areas with a unique competitive approach. The challenges faced by the biometrics industry are as follows:

- Currently, one of the prime challenges in the biometrics industry is to meet the identity governance requirements on a large scale. For that, the usage of biometrics technology needs to be made more scalable, robust and interoperable.
- Currently, the area sensors have been accepted widely in which the biometric functionality is important. The companies in this sector need to focus keenly on reducing the production cost.

To combat these industrial challenges, biometrics companies require developing and providing solutions that relevantly safeguard privacy and protect data, thereby controlling the usage of and preventing the misuse of private biometric data.

### **Impact of Product Line Strategy Award on Key Stakeholders**

The Product Line Strategy Award is a prestigious recognition of FPC's accomplishments in the fingerprint verification components and systems sector. An unbiased, 3<sup>rd</sup> party recognition can provide a profound impact in enhancing the brand value and thereby accelerating FPC's growth. As captured in Chart 1 below, by researching, ranking, and recognizing those who deliver excellence and best practices in their respective endeavors, Frost & Sullivan hopes to inspire, influence, and impact three specific constituencies:

- **Investors**

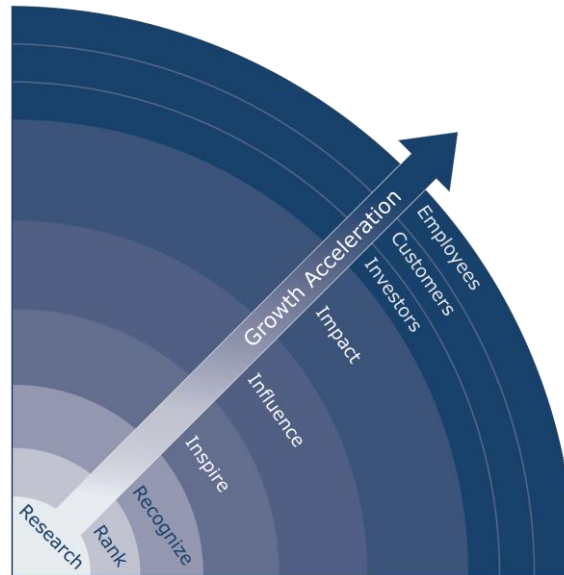
Investors and shareholders always welcome unbiased and impartial third party recognition. Similarly, prospective investors and shareholders are drawn to companies with a well-established reputation for excellence. Unbiased validation is the best and most credible way to showcase an organization worthy of investment.

- **Customers**

3rd party industry recognition has been proven to be the most effective way to assure customers that they are partnering with an organization that is leading in its field.

- **Employees**

This Award represents the creativity and dedication of FPC's executive team and employees. Such public recognition can boost morale and inspire your team to continue its best-in-class pursuit of a strong competitive position for FPC.

**Chart 1: Best Practices Leverage for Growth Acceleration****Key Benchmarking Criteria for Product Line Strategy Award**

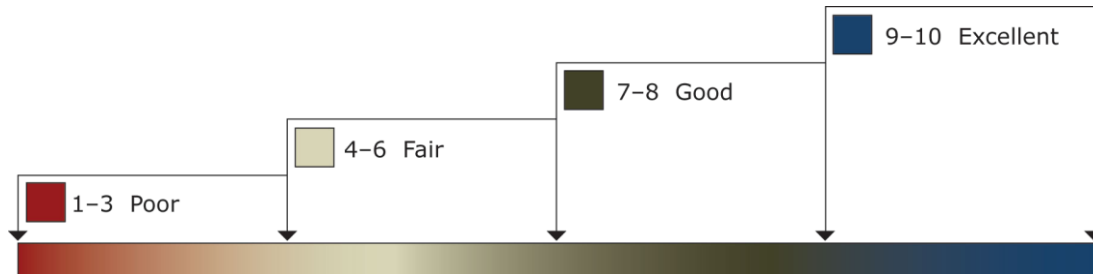
For the Product Line Strategy Award, the following criteria were used to benchmark FPC's performance against key competitors:

- Breadth of Product Line
- Size of Addressable Customer Base
- Impact on Customer Value
- Impact on Market Share
- Breadth of Applications/Markets Served

## Decision Support Matrix and Measurement Criteria

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Matrix (DSM). The DSM is an analytical tool that compares companies' performance relative to each other with an integration of quantitative and qualitative metrics. The DSM features criteria unique to each award category and ranks importance by assigning weights to each criterion. The relative weighting reflects current market conditions and illustrates the associated importance of each criterion according to Frost & Sullivan. Fundamentally, each DSM is distinct for each market and award category. The DSM allows our research and consulting teams to objectively analyze each company's performance on each criterion relative to its top competitors and assign performance ratings on that basis. The DSM follows a 10-point scale that allows for nuances in performance evaluation; ratings guidelines are shown in Chart 2.

**Chart 2: Performance-based Ratings for Decision Support Matrix**



This exercise encompasses all criteria, leading to a weighted average ranking of each company. Researchers can then easily identify the company with the highest ranking. As a final step, the research team confirms the veracity of the model by ensuring that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.

**Chart 3: Frost & Sullivan’s 10 Step Process for Identifying Award-Recipients**



## Best Practice Award Analysis for FPC

The Decision Support Matrix, shown in Chart 4, illustrates the relative importance of each criterion for the Product Line Strategy Award and the ratings for each company under evaluation. To remain unbiased while also protecting the interests of the other organizations reviewed, we have chosen to refer to the other key players as Competitor 1 and Competitor 2.

**Chart 4: Decision Support Matrix for Product Line Strategy Award**

<i>Measurement of 1-10 (1 = lowest; 10 = highest)</i>	<b>Award Criteria</b>					
	Breadth of Product Line	Size of Addressable Customer Base	Impact on Customer Value	Impact on Market Share	Breadth of Applications/Markets Served	<b>Weighted Rating</b>
<b>Relative Weight (%)</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>100%</b>
FPC	9	8	9	9	9	8.8
Competitor 1	8	7	7	8	7	7.4
Competitor 2	8	7	6	7	7	5.6

### Criterion 1: Breadth of Product Line

FPC possesses the potential of supporting its customers with all the desired biometric core technology. The company’s wide range of product portfolio has been perfectly designed and developed to meet varied verification needs. The product range includes fingerprint sensors, biometric processor applications-specific integrated circuits (ASICs), biometric sub-modules, development kits along with other fingerprint verification components and systems. All these systems are based on the company’s different patents that include sensor architecture patent, sensor pixel element patent, algorithm patent, swipe sensor methodology patent and packaging patent. The company’s FPC1011F area sensor has proven to be the most successful offering in the market, which is a high-quality robust fingerprint sensor. It is quite thicker and harder in comparison to other fingerprint sensors and comes with a scratch-resistance coating. Moreover, FPC1011F also delivers unmatched image quality in every single programmable pixel with 256 grey scale values as it is equipped with the proprietary 3D pixel sensing technology. With the help of this technology, this fingerprint area sensor can virtually read any finger, either wet or dry. Apart from area sensors, FPC has also successfully designed several generations of biometric processor such as ASICs FPC2020, which are optimised for the company’s sensors only, and FPC1031 (swipe sensor). FPC’s robust biometric modules, FPC-AM3, enable easy integration, offering

superior performance. Its pilot kits and development kit prototyping, also including customised wafer projects, are enlisted in the company's wide array of products.

**Criterion 2: Size of Addressable Customer Base**

For more than a decade, FPC has been operating in the biometrics industry with the prime focus on designing and developing, marketing and selling and/or licensing its core technology of fingerprint biometric. The company's superior and robust biometric solutions have successfully enabled it to position itself as a major developer and supplier of fingerprint verification components and systems to more than 2,000 customers that include both small and large-sized ones throughout the world. In 2007, FPC became the biggest supplier of biometric authentication systems for the Chinese bank sector.

**Criterion 3: Impact on Customer Value**

FPC is a customer-oriented company, being quite flexible in meeting specific customer demands. Currently, the company is involved in many customised wafer projects, which are grouped under FPC1011W. In these projects, FPC supports special customer projects by providing both sensors and processors in a wafer format. In such customised projects, the biometric technology packaging does not follow the standard company packaging. The wafer projects are offered along with the services of FPC. Apart from customisation options, FPC also offers certain price benefits to its customers, such as bulk pricing privileges. Moreover, the company also helps its customers in product designing. It reviews the customer's design and then adds certain special features to it for making the best design possible by integrating FPC technology on the basis of the customer and project base. These value-added services offered by FPC to its customers have been instrumental in making it the preferred choice of the customers. This has resulted in the increase in FPC's customer base over the years.

**Criterion 4: Impact on Market Share**

Basically, FPC serves three major markets, which include complementary metal-oxide-semiconductor (CMOS) area-based sensors and subsystems, CMOS swipe-based sensors and subsystems and specialised projects based on its technology in wafer format. FPC has a significant impact in the CMOS area-based sensors and subsystems market due to its high quality since most of the companies select FPC's technology for implementations where the biometric functionality has an important function. The company's success in the bank and financial market with the Chinese bank sector demonstrates an instance of how quality should be prioritised over price in matters of biometric technology. In the CMOS swipe-based sensors and subsystems sector, FPC supplies majority of its sensors to laptop and mobile phone makers for the purpose of integration into these devices. Although it is not yet a top participant in this segment, it is likely to become one in the near future by its innovation of new technologies. In the customized wafer-based projects market, FPC is quite a well known market participant as it has already rendered its technology and support to many customised projects that include mostly advanced card projects. The company's unique patented technologies brought it in co-operation with well-known industry players such as Texas Instruments and Motorola in 2003.

**Criterion 5: Breadth of Applications/Markets Served**

FPC has its presence throughout the world; either it operates from its own offices or with the help of distributors. In Asia, FPC has its presence in China, Hong Kong, Indonesia, Japan, Malaysia, Singapore, South Korea and Taiwan. In Europe, Austria, Germany, Sweden, Switzerland, and the United Kingdom are the countries where FPC sells its technologies. The company also has its presence in Canada, Argentina, Paraguay, Uruguay and the United States. Although the core business concept of FPC is delivering components and complete systems based on its patented fingerprint technology, it is also quite strong in the arena of small and cost-effective embedded systems. FPC serves the laptop, mobile phones and financial and banking sectors with its unique fingertip verification technology. The area sensor technology is quite successfully used on applications like access control systems in buildings, time and attendance on to computers and IT networks and other strong security zones.

## The CEO 360 Degree Perspective™ - Visionary Platform for Growth Strategies

The CEO 360 Degree Perspective model provides a clear illustration of the complex business universe in which CEOs and their management teams live today. It represents the foundation of Frost & Sullivan's global research organization and provides the basis on which companies can gain a visionary and strategic understanding of the market. The 360 degree perspective is also a “must-have” requirement for the identification and analysis of best-practice performance by industry leaders.

The 360 degree model enables our clients to gain a comprehensive, action-oriented understanding of market evolution and its implications for their companies’ growth strategies. As illustrated in Chart 5 below, the following six-step process outlines how our researchers and consultants embed the 360 degree perspective into their analyses and recommendations:

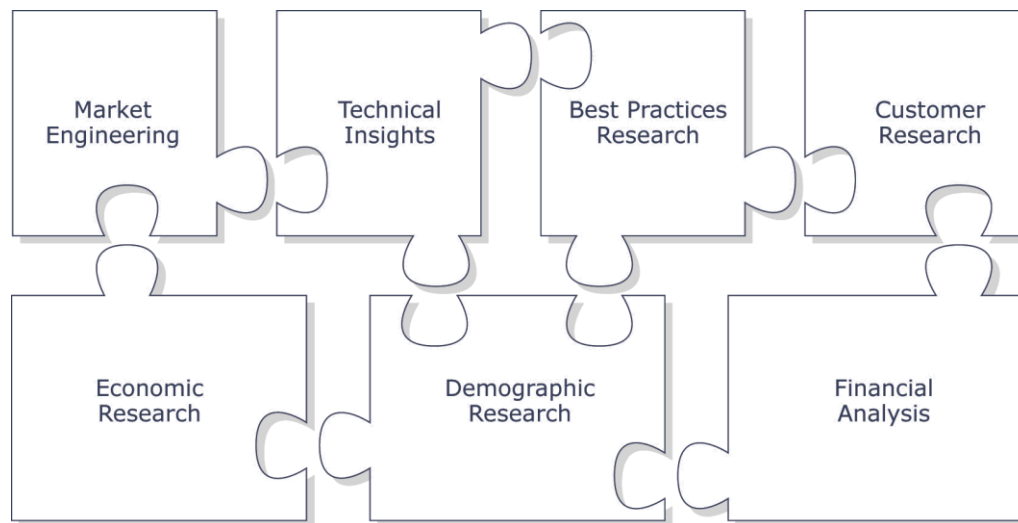
**Chart 5: How the CEO's 360 Degree Perspective Model Direct Our Research?**



## Critical Importance of TEAM Research

Frost & Sullivan's TEAM Research methodology represents the analytical rigor of our research process: it offers a 360 degree view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Our experience has shown over the years that companies too often make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Frost & Sullivan contends that the successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices and demographic analyses. In that vein, the letters T, E, A and M reflect our core technical, economic, applied (financial and best practices) and market analyses. The integration of these research disciplines into the TEAM Research methodology provides an evaluation platform for benchmarking industry players and for creating high-potential growth strategies for our clients.

**Chart 6: Benchmarking Performance with TEAM Research**



## About FPC

Headquartered in Gothenburg, Sweden, FPC is one of those companies that are listed on the OMX Nordic Exchange (FING B) in Stockholm, Sweden. FPC is a reputed name in the field of fingerprint sensors due to its unique innovation of FPC1011F, in addition to biometric processor ASICs, biometric sub-modules, development kits along with other fingerprint verification components and systems. The company has developed electronic systems that verify personal identity by the analysis of an individual's unique fingertip patterns. The company does this with the help of microchips comprising algorithms that can scan, store and compare fingertip patterns without the usage of any PC processor.

## About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best in class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation and implementation of powerful growth strategies. Frost & Sullivan leverages almost 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 31 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.