Internationalisation of innovation in SMEs

Case Studies, Exemplary Support Practices and Policy Implications

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Case Study No. 6:

KeyGene, the Netherlands:

Internationalising innovation activities to the outside and inside

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Author: Stefan Lilischkis

About the InterSME Study

The study on "internationalisation of innovation in SMEs" was based on a contract between the European Commission, Directorate General Research and Innovation, and empirica Gesellschaft für Kommunikations- und Technologieforschung mbH (co-ordinator, Bonn, Germany) as well as Dialogic (Utrecht, the Netherlands).

The study focuses on two subjects – innovation and internationalisation – which are deemed to be crucial for the European economy. It has two main parts: (1) Twelve case studies of small and medium-sized enterprises (SMEs) with insightful international innovation practice and (2) an analysis of strengths, weaknesses, opportunities and threats (SWOT) of European policy measures seeking to enhance such internationalisation. This publication presents one of the twelve cases selected.

IN A NUT SHELL	**KeyGene, the Netherlands is an Agro biotech company that provides research for crop improvement. The company has a subsidiary in the US and a large share of employees from other countries, and it customises services for each client. In doing business abroad it benefits from embassies, European associations, and trade delegations.**

Abstract

KeyGene's main business is strategic and applied research in the field of natural genetic variation in vegetables and other crops. It has 135 employees and is based in the Netherlands. Founded in 1989, the company strengthened its international activities when a new CEO came into office in 2004. The CEO found it very important to internationalise not only to the outside but also to the inside. Towards the outside, he established a subsidiary in the US and a partnership with an R&D institute in China. Towards the inside, he hired more employees from foreign countries and established English as the company's main internal language. The biggest challenge for KeyGene anywhere in the world is regulation. Protectionism and a lacking respect for intellectual property are further challenges in some countries. KeyGene receives helpful support to its international activities from its shareholders, from Dutch embassies, and from European business associations. The company also benefited from several international trade delegations. Furthermore, KeyGene took part in publicly co-funded European research projects. Internationalising innovation in this way had a significantly positive impact on the company: the turnover, the number of employees and the number of patents all resulted in a strong increase.

Case study fact sheet

Company name:	*KeyGene (http://www.keygene.com)*
Subsidiaries:	*KeyGene USA, Rockville (Maryland)*
Year of foundation:	*1989*
Number of employees:	*135*
Turnover:	*Close to 20 million Euro (2015)*
Industry sector:	*Agricultural biotechnology*
Business activity:	*Strategic and applied research in the field of natural genetic variation in vegetables and other crops*
Activities focused in this case study:	*Internationalising innovation to the outside (through a subsidiary and customised services) and inside (through employees from many countries and making English the main language)*
Case gatekeeper:	*Arjen van Tunen*

Background

Business activity and competitive situation

Profile: KeyGene calls itself a "crop innovation company"[1] and is based in Wageningen, the Netherlands. The company's main business is strategic and applied molecular genetic research in vegetable, field and ornamental crops. A number of Dutch seed companies founded KeyGene in 1989, with the goal to "create synergy and higher efficiency in their molecular genetic research programs".[2] KeyGene started with three employees and today has 135. The company has four

[1] Quote from http://www.keygene.com/about-us/.
[2] See http://www.keygene.com/about-us/.

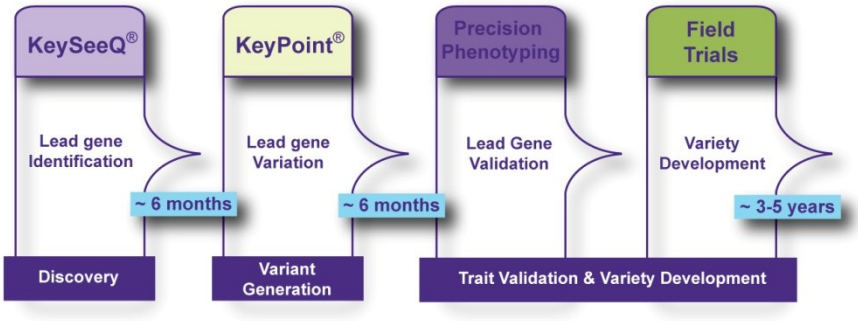
large strategic shareholders from the vegetable breeding business: Enza Zaden (Netherlands), Rijk Zwaan (Netherlands), Vilmorin & Cie (France), and Takii & Co. (Japan).

According to the company's self-description, "KeyGene assists breeding companies all over the world with their crop development, by providing cutting-edge breeding technology and trait improvement platforms."[3] KeyGene considers itself as the **market** leader in its field of business and has the objective to sustain this position. It seeks further gradual growth in a gradually growing market. KeyGene's CEO Arjen van Tunen sees Europe in a leading position in crop innovation. Other parts of the world, in particular China, India and Brazil, are "agro super powers which are a perfect outlet for our technology".

KeyGene's four strategic shareholders are also the company's main **customers**. Other customers are major companies in the field crop and ornamental seed industry. On the **competitors**' side there are a number of knowledge providers, including universities, mainly in the US but also in Israel and Europe. It has become a problem for KeyGene that governments increasingly require universities to commercialise their research findings. From KeyGene's point of view, this sometimes leads to false competition when universities offer commercial services for distorted prices and infringe patents.

KeyGene's business is **innovation**. The company has developed several registered technologies which are used in its research for improved crops – see Exhibit 1-1 for an example, the KeyPoint® technology. KeyGene sees a necessity for continuous innovation in food production.

Exhibit 1-Fehler! Kein Text mit angegebener Formatvorlage im Dokument.**-1: KeyGene's KeyPoint® Mutation Breeding technology**



Source: http://www.keygene.com/products-tech/keypoint/

One of its basic assumptions is a need to increase efficiency in growing crops to meet challenges such as an increasing world population while availability of land and clean water is shrinking.

How and why KeyGene internationalised its business activities

KeyGene switched to substantial international activity when the current CEO joined the company in 2004. He believed that the company needed an innovation boost and that this had to go together with internationalisation. In 2005 the new CEO launched a subsidiary in Rockville in the East of US, close to Washington D.C. Moreover, KeyGene today collaborates with a Joint Lab at the Shanghai Institute of Biological Sciences in Shanghai, China. According to its corporate brochure, "KeyGene is constantly looking for new opportunities to collaborate with both industry and academic world", in principle in all parts of the world.

Internationalising innovation at KeyGene

Practice

KeyGene internationalised to the outside and to the inside. Towards the **outside**, KeyGene has a subsidiary in the US, a formal R&D partner in China and more or less strong contacts with many other research institutes in different parts of the world. The US subsidiary has ten employees. It was established because of the large amount of R&D investments done in the US – KeyGene sought to take its share. Its CEO, Arjen van Tunen, explains, "you can only benefit from it when you are in the middle of it". KeyGene is involved in many R&D projects in the US. Basically, the

[3] See http://www.keygene.com/about-us/.

operations of the US subsidiary are the same as its headquarters in the Netherlands, but the US branch is more focused on crops that are prominent in the US.

Furthermore, KeyGene **customises** its services to every single client. KeyGene helps them "improve their crops", as Arjen van Tunen says, depending for example on the type of crops, demands from the customer's R&D department, and the customer's level of advancement.

To the **inside**, Arjen van Tunen changed the main language within the company from Dutch to English soon after he went into office. The company also looks for experts internationally. Approximately a quarter of the employees are foreigners. Some come from countries outside Europe, like the US, Brazil, as well as Nepal. Arjen van Tunen seeks new ideas and creativity and attracting the best workers possible. An objective that KeyGene still seeks to fulfil is having at least one of the four board positions taken by someone not born in the Netherlands.

Challenges to internationalisation

For KeyGene, due to its field of business, the biggest challenge anywhere in the world is **regulation**. Arjen van Tunen considers the EU administration not as particularly better than governmental institutions in other parts of the world. For example, according to him, EU regulation about new breeding technologies has been pending for a long time and the industry is waiting for a decision. Similar issues apply in Japan. Some other countries like the US, China and also Argentina have so far been more decisive. Arjen van Tunen states that a faster, better, and knowledge-based decision process in the EU would increase competitiveness of the rather few companies in his field of business which remain in Europe.

Another issue that applies to several key countries is **protectionism**. Since food security is an important issue in China and India, both countries protect their seed industries. This makes it difficult to become partners. For example, a foreign investor cannot take the majority of shares in a Chinese seed company.

Furthermore, **respect for intellectual property** (IP) is low and still developing in some countries. This is a crucial issue for KeyGene because the company's products are intangible. Hence, KeyGene is cautious with introducing its most innovative services to countries with a generally low respect of IP.

Support to internationalisation

KeyGene receives support to its international activities from several organisations. First of all, the company's **shareholders** help internationalise, the Japanese shareholder in particular. Second, KeyGene frequently uses support from the **Dutch embassies** in its international activities, particularly when seeking to enter new markets. KeyGene finds this support very helpful. "Each time I go to China, I am having an appointment with the embassy or consulate", says van Tunen.

Trade delegations are another helpful means of internationalisation. KeyGene was part of several Dutch delegations to countries outside Europe, for example to China, India, and Brazil. Arjen van Tunen says that trade delegations organised by the EU may potentially also be helpful, but only if they are designed for specific industries, specific thematic areas and going to the largest countries.

He also considers related **European associations** as very helpful, i.e. EuropaBio and the European Seed Association which are dealing with KeyGene's type of business. Furthermore, KeyGene has been partner in many helpful **European research projects**.

Impact and lessons learned

Impact

Internationalisation had a **significantly positive impact** on KeyGene. Turnover tripled from around 6 million Euro in 2004 to almost 20 million in 2015. In the same period of time, the number of employees grew from 80 to 135. The company's intellectual property position also improved: In 2004, the company only had a few patents; today it has over 500, half of them granted, and >50 patent families.

While internationalisation generally had positive impacts, KeyGene also faced **drawbacks**. The company planned to establish two subsidiaries, one in the US and one in China. While the US subsidiary is operating well, a subsidiary in China has not yet been established. This is also due to differences in doing business and the way in which intellectual property is handled. These are issues other companies in other fields of business may also have to be aware of when going abroad.

Lessons learned

- **Internationalising not only to the outside but also inside**

KeyGene is an example of a company that internationalised both to the outside (through a subsidiary in the US and an R&D partner in China as well as customising services for each client) and to the inside (through hiring experts from other countries and using English as the company's main language). Both may be necessary for successful international innovation activities.

- **Seeking support from national embassies and European associations**

In its international activities, KeyGene receives support from the Dutch embassies in countries outside Europe and from European business associations. It participates in trade delegations to foreign countries and considers this support as very helpful and recommendable.

- **Regulation may be key barrier to internationalisation**

In KeyGene's case, regulation is the predominant barrier to doing business anywhere in the world. Some countries are, however, more decisive about regulation which increases competitiveness of the companies based in these countries. This may not only apply to agro-biotechnology.

References

Research for this case study was conducted by Stefan Lilischkis, Senior Consultant at empirica GmbH, Bonn, Germany, on behalf of the study about internationalisation of innovation in SMEs. Sources and references used include desk research plus the following.

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