

Opportunities and risks

Integrated management

The Kudelski Group operates in a highly competitive and rapidly changing technological environment.

Anticipation and ability to react quickly are fundamental assets, both of which have led the Group to hold a strong market position.

Opportunity and risk management is a key element of the Group's growth. It is paramount throughout the company: internal organization, development strategy, core competencies, products and market environment.

Company internal organization

Flexibility and rigor

The Group's flexible organization encourages creativity and guarantees swift reaction times. Its horizontal structure allows for direct decision-making lines.

Since 2003, the Group has focused on operational and organizational issues. Key corporate areas such as business development, product development, accounting and controlling have been strengthened and appointed to experienced senior managers.

The Group operates according to a project-based management approach. The project portfolio has been streamlined in the course of the last few years to improve focus and meet market expectations.

Financial controlling

Financial controlling is an important aspect of risk management. By regularly updating its controlling processes, management can better identify economic, operational and business risks and assess their potential material impact on the company.

These processes have led to a better control of operational costs while driving revenue growth. They have also contributed to a better handling of foreign exchange exposure.

Development strategy

Building future growth

The growth of the Group depends to a large extent on the development of markets that are still at an early development stage. These markets include for example content protection solutions for IP networks, content protection solutions based on disposable cards, mobile TV and others. It is essential that the Group builds a diversified offer to seize new opportunities and address risks in an optimal manner.

Historically, the Group's growth has depended on a limited number of large digital operators. Although the Group continues to gain market share, it derives a significant portion of its current revenues from its historical customers.

New technologies, top quality service, state-of-the-art solutions and continued geographical expansion are all decisive factors that allow the Group to both strengthen relationships with its existing customers while avoiding dependence, and gain new deals.

“In the past, only a few of the identified opportunities led to concrete projects. Today, the Group must respond to a real simultaneous demand for all the new projects. We decided to carry them out in parallel in order to preserve our competitive advantage, especially with regard to mass-market digital TV and mobile TV.”

André Kudelski



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State-of-the art solutions

In the digital television sector, the Kudelski Group develops and markets conditional access solutions, which rank amongst the most secure and reputable in the world.

In addition to these solutions, the Group provides digital TV operators with a whole range of innovative solutions effectively complementing its core offering and enabling new business models and functionalities.

Over the last fifteen years, the Group has always demonstrated its ability to explore new grounds and expand the scope of application of its technology.

The transition from analog to digital television, content protection solutions for IP (as well as broadcast) networks, mobile TV solutions, are just a few examples of the Group's ability to anticipate market needs and develop new technologies to meet them.

Geographical expansion

The Group enjoys a wide geographical presence which not only contributes to its revenue growth but also reduces exposure to single currency exchange rate fluctuations.

The Group is active on the five continents since 1999. Following the acquisition of **MediaGuard** and the establishment of contractual agreements with several major operators, including **Premiere**, **KDG** and **UPC**, the Group has substantially strengthened its position, in particular in Europe.

North America represents the second most important market for the Group. The United States, where NagraVision started its digital TV activities in 1995 with **EchoStar**, remains a key market.

Over the past few years, the Group has developed a strong position in the Asia/Pacific region, winning several new contracts with digital TV operators in markets such as Malaysia, Hong Kong, Singapore, South Korea, Taiwan and several others. Moreover, the Group works with several cable operators across China, having secured a strong market share in those Chinese cities with the highest GDP per capita, including Shanghai and Beijing.

Acquisitions

Selected acquisitions have complemented the Group's organic growth. They have contributed to consolidating the Group's position through enhanced product lines, additional know-how and expanded geographical presence. In digital TV, acquisitions include **Lysis** in 2001, **MediaGuard** in 2003 and **Abilis** in 2005.

Acquisitions in the Public Access sector (**SportAccess** and **SkiData** in 2000 and 2001 respectively) illustrated the expansion of the Group into a new sector. They were part of the Group's strategy to achieve convergence between digital television, Internet, mobile phones and physical access.

Resources management

Innovation – a fundamental value for the Group

From the first portable recorder to handsfree physical access solutions and advanced content protection solutions for digital television, the Kudelski Group has always built its success on innovation.

These technological and business innovations allowed the Group to accommodate new consumer and customer needs; furthermore, they revolutionized and reshaped the marketplace by providing end-users with simplified access to a variety of high quality and affordable services and by triggering original consumption behaviors.

R&D and competence centers

The Group operates three main digital television R&D centers located in Switzerland (**NagraVision/NagraCard**), France (**Nagra France**) and the U.S. (**NagraStar**). In the Public Access sector, the bulk of R&D is concentrated in Austria and in Switzerland.

In digital TV, R&D focuses mainly on content security technologies. In particular, R&D objectives are the following:

- Constant evolution of the existing security solutions and software architecture.
- Launch of new platforms and services such as pre-paid disposable cards, basic encryption modules and Push VOD architecture.
- Anticipation of market trends and development of solutions capable of supporting emerging and future services such as hybrid platforms (e.g. terrestrial/IP or satellite/IP) and content transmission on mobile devices.

Additionally, the Group has created specialized competence centers that concentrate on specific areas such as decoder technology ([Livewire](#) in the United States, [STB Center](#) in Shanghai, participation in [Acetel](#) in Korea) and new IPTV solutions ([Quative](#) in the United Kingdom).

The Public Access division also aims at fostering a competitive edge through R&D, focusing on the development of innovative access control products and ticketing solutions. It continues to produce easy-to-use and feature-rich access control solutions customized for specific market segments such as parking, ski, leisure parks or sport venues.

Smart cards under control

The Group handles in-house its own strategic processes and competences.

Smart cards are designed, developed and produced by [NagraCard](#) and [Nagra France](#). These companies have expertise in the design of secure software and hardware using secure embedded microprocessors that can be packaged into a smart card. All sensitive information is exclusively managed by specialized teams within these two entities, which operate their own production lines.

Smart cards for the Group's Digital TV units are assembled at [NagraID](#). Over the last year, NagraID has extended its field of activities to include the development and production of contactless modules (based on RFID technology) and the assembly of smart cards for the Group's Public Access unit. These modules and smart cards are designed to respond to the increasing demand for security systems allowing identification without physical contact.

Smart card production is in the hands of the Group itself and takes place on high-security premises, bringing more security to the overall solution development process. This approach also eliminates other risks related to the use of external suppliers in such a sensitive industry, in particular risks related to security and confidentiality.

Intellectual property management

At the end of 2005, the Kudelski Group holds a portfolio of more than 1 300 patents and trademarks all over the world.

In order to preserve efficiently this important asset, the Group has set up a protection program covering all aspects of intellectual property. [Leman Consulting](#) owned by the Kudelski Group is in charge of intellectual property issues, while [Nagra Thomson Licensing](#), a joint venture with Thomson, is committed to maximizing the patent portfolio generated by the MediaGuard acquisition. The Kudelski Group does not depend in any way on third party licenses and patents, thus avoiding risks related to such dependence.

In order to further reinforce this strategic asset, the Group hired Lucien Gani as General Counsel and Head of Legal Affairs, a new position in the Group's top management, effective 1st January 2006.

Quality assurance

The Group develops sophisticated, tailor-made solutions adapted to every customer's needs. It is therefore very important that each phase, from product development to production, on-site deployment and upgrading, be rigorously and systematically controlled in a harsh real-world-like environment.

The Quality Assurance department has established processes to ensure the quality of the products delivered and their conformity with the operators' needs and the quality control standards of the industry.

Potential product defects could result in severe damage for the customers and thus for the Group. Therefore, procedures are implemented throughout the product cycle to reduce such risks, identify possible defects and correct them as quickly as possible.

Smart cards are designed, developed and produced within the Kudelski Group.



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Training center

A new training center designed both for customers and employees was established in early 2005. Although training courses existed before, the infrastructure, the training calendar and the teachers' training program have been optimized. The center includes a laboratory room that strictly reproduces operators' configuration platforms, so that participants can learn and practice as if in a real-life situation.

Competitive advantages

Independence of the Group – a corporate value

Today, only a small number of companies supply access control systems to digital pay TV and broadband operators. The Kudelski Group is independent from operators as well as from decoder manufacturers, which represents a substantial competitive advantage vis-à-vis most of the operators.

Furthermore, the Group's independence allows its customers to select the best available technologies from the market when building their platform and reduce risks of conflicting interests with third parties.

Open architecture solutions

The Group's access control solutions are based on an open architecture. Kudelski has been working for many years with most of the technology providers, including suppliers of head-end infrastructure, interactive applications and content management systems. This ensures matching technologies with key partners. More than 60 suppliers of decoders are interfaced with Kudelski's technology. The Group also cooperates with most major manufacturers of consumer electronics.

Security algorithms

Since 1984, the Group has acquired a unique expertise in cryptography through the development and implementation of symmetrical and public key algorithms for conditional access and scrambling solutions.

Additionally, in 1999 the Group established MediaCrypt, a joint venture with Ascom Systec. MediaCrypt develops high security encryption algorithms for the transmission of sensitive data in the context of digital pay TV and broadband Internet applications, as well as copyright protection in the media industry.

MediaCrypt licenses the IDEA algorithm, recognized as one of the most secure on the market. IDEA has secured millions of transactions worldwide for over fourteen years.

The next generation IDEA NXT launched in 2005 delivers unique features to the market with additional flexibility and diversification capabilities.

At the beginning of 2006, MediaCrypt was awarded the Frost & Sullivan's 2005 Excellence in Technology Award.

Dynamic security management

Conditional access systems deployed by operators are unavoidably exposed to piracy. Any professional in the security industry must consider piracy attacks as part of his daily business.

The procedures implemented by the Kudelski Group guarantee a high level of protection and provide for appropriate measures in the case of a confirmed attack.

The Group's security solutions are subject to an ongoing monitoring process, aimed at identifying and qualifying technical and economic risks. The output is fed into a dynamic process of system security upgrade, resulting in the deployment of software countermeasures capable of dynamically modifying the security profile of smart cards.

In a secured TV operating environment, security features are hosted by the decoder, almost as much as by the smart card and the head-end. The Group has rolled out a security protocol that includes security specifications for decoder manufacturers. These specifications affect the architecture, the design and the manufacturing of the decoder and aim at fully controlling the access to components within the decoder that are of critical importance from a security point of view.