

# **CONTENTS**

INVESTING FOR THE FUTURE	2
KEY FINANCIAL DATA 2016	6
THE KUDELSKI GROUP	8
INTEGRATED DIGITAL TELEVISION	20
PUBLIC ACCESS	48

### INVESTING FOR THE FUTURE

Interview with André Kudelski
Chairman and Chief Executive Officer of the Kudelski Group

# How would you describe 2016 for the Kudelski Group?

The Kudelski Group's performance in 2016 was solid, with revenues and other operating income reaching CHF 1 067 433 000, operating income of CHF 97 805 000 and net income from continuing operations of CHF 74 804 000. The Group improved its topline by 12.3% and its operating income by 20.4%, while at the same time investing CHF 196.8 million in R&D to develop the innovation and technology that will power our future.

In 2016, new generation connected Digital TV solutions, cybersecurity, intellectual property licensing and SKIDATA contributed to the Group's overall revenue growth. But more importantly, 2016 was a year in which the Group took important steps to better address the future opportunities and challenges facing the Group, specifically within the fields of Internet TV, cybersecurity and the Internet of Things.

# In 2016, the global political landscape was quite active, with unexpected events in the UK and the US. What impacts do you see for the Group and its main activities?

The world experienced significant volatility in 2016 and witnessed a few political surprises as well. The mood of the middle and working classes in Western countries demonstrates their aspiration for disruptive change, while the world's increasing connectivity has helped some seemingly unlikely scenarios become reality.

The amplitude of change remains almost invisible on the radars of traditional media before disruptive change happens, while the fast digitalization of the world with borderless connectivity has become a key driver of social transformation. This transformation showcases some paradoxes, with the demand for global interconnectivity increasing at the same time as a growing part of Western society is challenging some fundamental notions of globalization and demanding better protection through national borders.

For the Kudelski Group, the current trends have important consequences. On one side, the fast digitalization of our world requires new technologies to facilitate easy access to digital media content, including social networks, on multiple devices and without geographic boundaries. On the other side, the need for content owners to protect their content and ensure its traceability is paramount to protecting their assets, especially when we consider the nature and scale of the piracy that is being fueled by global interconnectivity.

Cyber risks are a growing concern due to the asymmetric risk posed by new hacking techniques and the hyper connectivity. Recent examples have demonstrated that cyber attacks may have much broader implications on our lives than previously anticipated. The digitalization of our society increases our exposure to attacks that can be originated in countries where the legal framework may not be appropriately adapted. The new generations of cyber attacks are also not limited to cyber space; their impacts on the real world and its mass quantity of everyday objects have dramatically increased by virtue of the Internet of Things.

The Kudelski Group sees opportunities with these new paradoxes. In Digital TV, it is about enabling access to cross border content, taking into account the desires of consumers while preserving the interest of content owners. In cybersecurity, it is also about avoiding cross border threats as well as domestic threats that impact business and personal lives. Efficient cyber protection may avoid disasters that the legal system, which is slow to adapt, can at best only hope to mitigate over the long term.



In this new landscape, the Kudelski Group has decided to continue to invest in Digital TV, with a special focus on Internet TV and new security technologies, like watermarking and analytics, while also ramping up its investment in cybersecurity through Kudelski Security, with a special focus on securing IT, digital infrastructures and the Internet of Things.

For the Group, innovation remains a key element in an environment in which fundamentals change quite rapidly. We focus on developing technologies that will be relevant with these transformations.

### With this in mind, how do you foresee 2017?

2017 will be more challenging than 2016, as most sectors in which the Group is active are in a state of transformation, with new risks and opportunities. The Digital TV industry is evolving fast, with new opportunities such as extended content protection, enhanced user experience and analytics.

In 2017, we will continue to invest heavily in R&D to ensure that the Group is well-positioned to face the challenges that await us in the future. Our primary areas of focus will be Internet TV, cybersecurity and the Internet of Things.

In cybersecurity, we have successfully expanded our distribution network in the United States. In 2017, we will continue to grow our Kudelski Security business with a focus on broadening our product portfolio through innovation and R&D.

Analytics, thanks to our global installed base in digital TV and our long experience in this industry, is also a key investment topic, as most third party solutions currently available in the market are too generic to enable pay-TV operators to differentiate themselves from new competitors. In the DTV business, the needs of content viewers and the demands of content owners remain disconnected, with a real impact on the entire digital content distribution ecosystem. We will look to introduce solutions that help address this disconnect.

# In June 2016, the Group announced the opening of a second headquarters in Phoenix, Arizona. Now that nine months have passed, how do you see this decision?

For many years, the Group has striven to be close to its primary markets. The rationale of this approach is to better understand and appreciate the specificities of each region, with the recognition that even though a company can be global, there is no real global consumer. This approach applies not only to sales, marketing and operations; it can apply to most of the functions of the Group.

Over the last decade, the Group has established R&D centers in Europe, America and Asia as part of our strategy to be closer to our markets and to optimize our cost structure. When a business segment is R&D intensive, it is critical to ensure that every Swiss franc or US dollar is spent as efficiently as possible.

Our decision to establish a second headquarters in Phoenix was motivated by our strategy to ramp up our cybersecurity activity in the United States, the largest cybersecurity market in the world. The build-up of our Phoenix presence also benefits from the transfer of support functions from Switzerland.

The strong increase of revenues generated in the US in 2016 demonstrates the importance of an increased local presence there. Furthermore, the growing protectionist mood in many Western countries further validates this strategy, as our exposure to currency exchange rate fluctuations and potential barriers to international trade can be better mitigated through local operations.

Furthermore, in order to better reflect the reality of the sectors in which we operate, as well as our international focus, we have decided to report our financial results in US\$ beginning as of January 1, 2017.

# From a business perspective, what were the Group's major achievements of 2016?

For iDTV, we had a particularly good year in Asia and Africa. South America continues to suffer from deteriorating economic conditions. Nevertheless, the Group was able to extend its presence in all of these markets, primarily by introducing new technologies such as solutions for Internet TV.

We launched new products, especially our content distribution platform, providing content protection services on the most popular devices. We also introduced, in partnership with Samsung, a new concept called TVkey to secure distribution of content on connected TVs, which will enable smart TVs to become a premium content receiver, whatever the means of transmission.

We also strengthened our market position in the field of watermarking, with the acquisition of NexGuard (formerly Civolution), to provide unique traceability solutions for premium content distribution. This reinforces our end-to-end content protection offering, by allowing active detection of pirated content in all watermarked content.

In the area of user experience, we developed new ways of discovering content that are more intuitive and stickier in order to increase viewer satisfaction.



### "Our primary areas of focus in 2017 will be Internet TV, cybersecurity and the Internet of Things."

For SKIDATA, 2016 was a good year mainly focused on global expansion and with the launch of new products helping infrastructure operators to increase their revenues.

For Kudelski Security, we are executing on our strategy to expand aggressively in the US market, with two recent acquisitions closed, but we also continue to develop unique proprietary solutions that will reinforce our positioning in the US and Europe.

In respect of the Internet of Things, we brought together our significant capabilities in a "Center of Excellence," in order to leverage our 25 years of expertise in connected devices. We have already gained important traction from prospects operating in industries in which the need for security was not perceived as critical until recently.

Our Intellectual Property team continued to deliver patent license agreements in 2016, including some important cross-license arrangements with industry-leading technology players. Once more, these agreements validate the quality of our R&D investments and enable us to better protect our own customer base.

# What will be the distribution to shareholders for fiscal year 2016?

We are focused on striking the right long-term balance as we distribute the value the Kudelski Group creates among various stakeholders. We manage the Group with a long-term vision. Regarding the distribution to shareholders, considering the solid performance of the Group in 2016 and the prospects for 2017, the Board of Directors is proposing at the next Annual General Meeting a distribution of CHF 0,35 per bearer share.

### What is the outlook for 2017?

For 2017, we expect to further grow Group revenues by approximately 10%. We expect to see growth momentum in Kudelski Security and Public Access and further consolidation of revenues in the iDTV sector, as this market continues to experience major transformation. We will continue to invest aggressively in our growth initiatives, including cybersecurity and the Internet of Things, in order to strengthen the Group's position in these respective markets.

On behalf of the Board of Directors of the Kudelski Group, I would like to thank our clients, employees and shareholders for their support and continued trust.

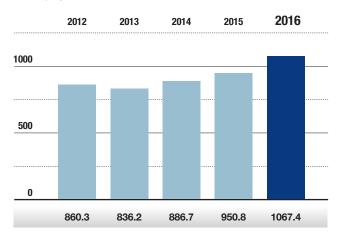
# **KEY FINANCIAL DATA 2016**

		31.12.2016	31.12.2015	Change
Total revenues and other operating income	CHF million	1 067.43	950.83	12.26 %
Operating income before depreciation, amortization				
and impairment (OIBDA)	CHF million	141.87	122.55	15.77 %
in % of total revenues	%	13.29	12.89	
Operating income (EBIT)	CHF million	97.80	81.22	20.42 %
in % of total revenues	%	9.16	8.54	
Net income from continuing operations	CHF million	74.80	49.31	51.69 %
Earnings per share	CHF	1.1549	0.8191	41.00 %
Money returned to shareholders (proposed per bearer share)	CHF	0.35	0.35	0 %
Share price at December 31 (bearer shares)	CHF	17.65	14.45	22.14 %
Market capitalization at December 31 (bearer shares)	CHF million	875.80	714.71	22.54 %
Equity attributable to equity holders	CHF million	477.29	423.14	12.80 %
Cash flow from operating activities	CHF million	122.62	106.39	15.26 %
Cash and cash equivalents	CHF million	177.06	136.84	29.39 %
Cash and Cash equivalents	Of It ITIMIOT	177.00	130.04	23.33 /0
Financial debt	CHF million	380.69	323.12	17.82 %
Number of employees at December 31 (headcount)		3 801	3 459	9.89 %

Except for headcount information, 2015 figures include retrospective application of new accounting standards and change in accounting policy. 2012 information has not been retreated for comparison purposes to include such changes.

# TOTAL REVENUES AND OTHER OPERATING INCOME

In million CHF



### **REVENUES PER SEGMENT**

INTEGRATED DIGITAL TV

69.6%

**PUBLIC ACCESS** 

30.4%

### **OPERATING INCOME**

	2012	2013	2014	2015	2016
150					
100					
50				-	
0					
	35.6	54.5	61.2	81.2	97.8

OIBDA \*

2016

**141.9**<sup>--</sup>

2015

122.6

### **NET INCOME FROM CONTINUING OPERATIONS**

	2012	2013	2014	2015	2016	
80				 	 	
60			 	 		
40						
20						
0						
	15.1	39.4	50.4	49.3	74.8	

# NET INCOME FROM CONTINUING OPERATIONS

2016

**74.8**°

2015

49.3

### **EARNINGS PER BEARER SHARE**

2016

1.15

2015

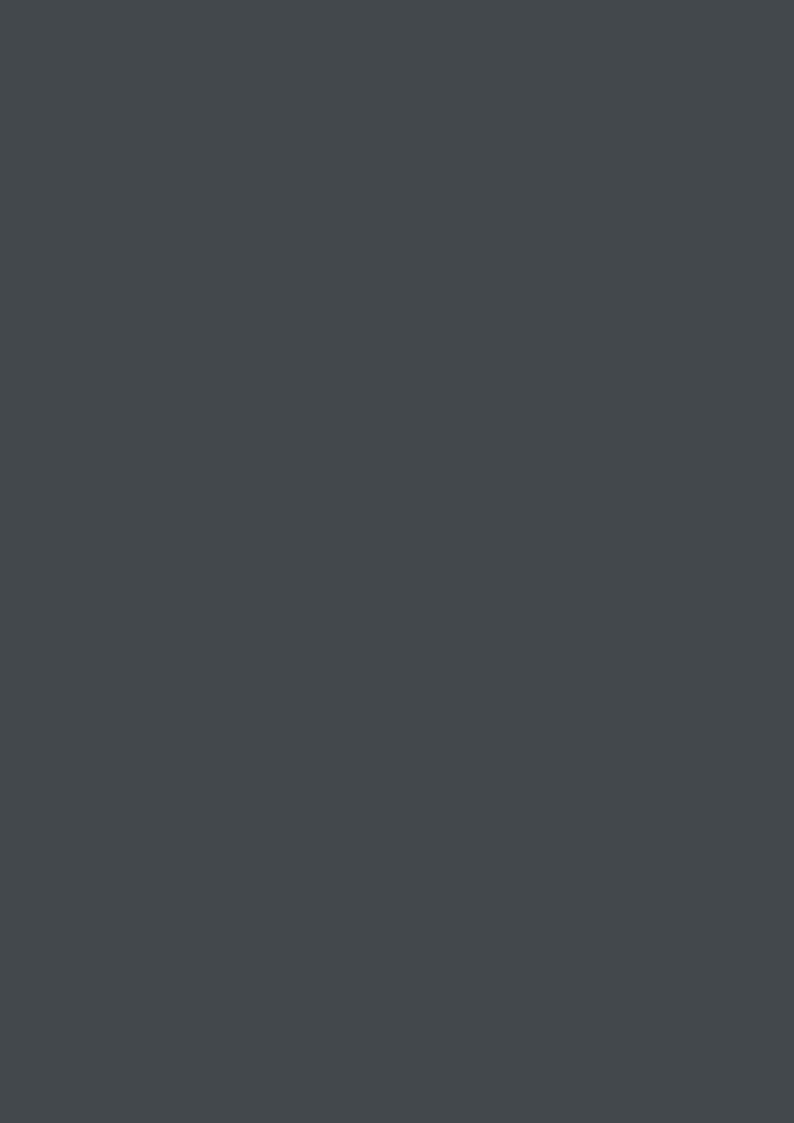
0.82

<sup>\*</sup> Operating Income Before Depreciation, Amortization and Impairement

<sup>\*\*</sup> In million CHF

<sup>\*\*\*</sup> In CHF

# THE KUDELSKI GROUP



# A GLOBAL TECHNOLOGY LEADER

) THE KUDELSKI GROUP

The Kudelski Group is the world leader in the development and delivery of state-of-the-art technologies to secure the revenues of content owners and service providers for digital television and interactive applications across all network types. The Group's solutions enable consumers to access content seamlessly over any device through an exciting viewing experience.

Leveraging its long-standing expertise in securing digital content and fighting piracy, the Group is also a global provider of cybersecurity solutions and services focused on protecting companies' and organizations' data and systems.

The Group capitalizes on its 5 300 patent-rich intellectual property portfolio through licensing arrangements that involve state-of-the-art technology portfolios, demonstrating the relevance of the Group's innovation and the key role it is playing in the industries in which it operates.

Public access solutions represent the Group's second pillar. The world's largest parking facilities, stadiums and mountain resorts use SKIDATA's integrated people and vehicle management solutions.



63
LOCATIONS IN 33 COUNTRIES

3801
EMPLOYEES

WE ASSEMBLE TEAMS OF HIGHLY SKILLED, CREATIVE AND COMMITTED PROFESSIONALS IN OUR MAIN RESEARCH AND DEVELOPMENT CENTERS AND AS CLOSE AS POSSIBLE TO OUR MARKETS, WHERE THE TALENTS ARE.

# **COMPANY PORTFOLIO**

THE KUDELSKI GROUP

### INTEGRATED DIGITAL TV

CO	RF	AC.	ΓΙVΙ	<b>TIES</b>	
UU	111	ΛU		IILO	

Integrated content protection and multi-device user experience solutions to reach users at home and on the move

**NAGRA** 

Modular cost-efficient solutions to deliver pay-TV content securely over broadcast, Internet and connected devices

Conax

Smart devices for digital TV including Conditional Access Modules and set-top boxes **SmarDTV** 

Watermarking technologies and solutions to protect media content against illicit redistribution

**NexGuard** 

### GROWTH INITIATIVES

12

Cybersecurity solutions and services for enterprises and the public sector

**Kudelski Security** 

Development, protection and licensing of the Group's innovations

**Intellectual Property** 

Technology and services to support companies across all industries in securing their Internet of Things innovations

**IoT Center of Excellence** 

### **PUBLIC ACCESS**

Integrated access and management solutions for car parks, ski resorts as well as sports, cultural, entertainment and exhibition facilities

**SKIDATA** 















The Group's history and heritage is built on the flagship name of NAGRA, originally referring to the world-famous recorder developed in 1951. The company has ever since been a technology pioneer driven by an acute vision and a sharp sense of innovation.

# **INNOVATION AS A GROWTH DRIVER**

### THE AUDIO AGE

1951

CREATION OF THE COMPANY BY STEFAN KUDELSKI.

LAUNCH OF THE FIRST PORTABLE RECORDER, THE NAGRA I. THIS INVENTION WAS THE START OF A SERIES OF WORLD FAMOUS RECORDERS THAT REVOLUTIONIZED SOUND RECORDING IN THE AUDIO AND MOVIE INDUSTRIES, SUCH AS THE NAGRA III, THE LEGENDARY RADIO, TV AND CINEMA RECORDER, AND THE NAGRA SN, A MINIATURE RECORDER.

### ALIDIO TO VIDE

LAUNCH OF THE AMPEX-NAGRA VPR-5, THE WORLD'S SMALLEST, LIGHTEST PROFESSIONAL PORTABLE C-FORMAT VIDEO RECORDER. ENTRY INTO THE VIDEO TECHNOLOGY INDUSTRY.

1986

THE COMPANY IS LISTED ON THE SWISS STOCK MARKET.

1989

FIRST ENCRYPTION SYSTEMS FOR TELEVISION AND ENTRY INTO THE PAY-TV SECTOR.

1991

ANDRÉ KUDELSKI SUCCEEDS STEFAN KUDELSKI AS CHAIRMAN AND CHIEF EXECUTIVE OFFICER. CONDITIONAL ACCESS TV SYSTEMS BECOME KUDELSKI'S CORE BUSINESS.

RECORD

1992

LAUNCH OF THE NAGRA D, FIRST PROFESSIONAL AUDIO PORTABLE DIGITAL RECORDER. AUTONOME

FIRST DIGITAL TV ACCESS SOLUTIONS.

# 1996

ANDRÉ KUDELSKI RECEIVES AN EMMY AWARD FROM THE NATIONAL ACADEMY OF ARTS AND SCIENCES FOR ACHIEVEMENTS IN THE AREA OF PAY-TV CONDITIONAL ACCESS AND SCRAMBLING SYSTEMS.

# 1997

DIGITAL PAY TELEVISION BECOMES THE COMPANY'S CORE BUSINESS.

NAGRA AUDIO LAUNCHES A RANGE OF HIGH-END HI-FI PRODUCTS.

# 1998

FIRST SYSTEMS OFFERING MIXED PAY-TV AND INTERNET SOLUTIONS.

CREATION OF NAGRASTAR, A JOINT-VENTURE WITH ECHOSTAR.

# 1999

THE GROUP CREATES THE FIRST ENCRYPTION SYSTEMS DESIGNED FOR BROADBAND NETWORKS.

# NTRYINTO PUBLIC ACCESS

# 2001

THE COMPANY DIVERSIFIES INTO THE PUBLIC ACCESS SECTOR WITH THE ACQUISITION OF SKIDATA.

THE GROUP BECOMES THE WORLD LEADER IN THE FIELD OF CONDITIONAL ACCESS SOLUTIONS.

# 2004

LAUNCH OF SECURITY SOLUTIONS FOR MOBILE DEVICES.

LAUNCH OF PRE-PAID CARDS GIVING ACCESS TO PREMIUM CONTENT ON A TEMPORARY BASIS.

# 2006

THE GROUP ADDS REMOVABLE SECURITY MODULES TO ITS OFFERING THROUGH THE ACQUISITION OF THE DIGITAL TV ACTIVITY OF SCM MICROSYSTEMS RESULTING IN THE CREATION OF SMARDTV.

# 2007

ACQUISITION OF A CONTROLLING INTEREST IN OPENTV.

FIRST SOLUTIONS DESIGNED FOR HYBRID NETWORKS.

### **EXPANDING IN THE DIGITAL TV ECOSYSTEM**

# 2009

LAUNCH OF MULTISCREEN SOLUTIONS.

ACQUISITION OF 100% OF OPENTV: THE GROUP'S SOLUTIONS MANAGE THE ENTIRE PAY-TV ECOSYSTEM.

### **ENTRY INTO CYBERSECURITY**

# 2012

THE GROUP DIVERSIFIES INTO THE CYBERSECURITY SECTOR WITH THE CREATION OF KUDELSKI SECURITY. CREATION OF THE INTELLECTUAL PROPERTY ACTIVITY TO MANAGE THE GROUP'S STRONG IP PORTFOLIO. CREATION OF DIGITAL TV MULTISCREEN AND HIGH DEFINITION (4K) SECURITY SOLUTIONS.

PRODUCTION LAUNCH OF OPENTV5, THE GROUP'S NEW GENERATION MIDDLEWARE SOLUTION.

### #1 IN DIGITAL MEDIA CONTENT PROTECTION

2014

FIRST MAJOR PATENT LICENSE AGREEMENT SIGNED WITH CISCO.

THE GROUP IS THE NO. 1 CAS PROVIDER WORLDWIDE WITH THE ACQUISITION OF CONAX.

# 2015

SUCCESS OF INTEGRATED SECURITY, NEXT-GENERATION MIDDLEWARE AND MULTISCREEN SOLUTIONS.

KUDELSKI SECURITY LAUNCHES THE FIRST SWISS CYBER FUSION CENTER.

### SECOND HEADQUARTERS IN THE U.S.

# 2016

LAUNCH OF NAGRA'S INTUITY, A CUTTING-EDGE, END-TO-END USER EXPERIENCE TURNKEY PLATFORM.

THE KUDELSKI GROUP CREATES A SECOND HEADQUARTERS IN PHOENIX, ARIZONA.

KUDELSKI SECURITY EXPANDS IN THE US MARKET WITH THE ACQUISITION OF MILESTONE SYSTEMS.

WITH THE ACQUISITION OF NEXGUARD LABS, A LEADER IN DIGITAL CONTENT WATERMARKING SOLUTIONS, THE KUDELSKI GROUP EXPANDS ITS PORTFOLIO OF END-TO-END CONTENT PROTECTION SECURITY SOLUTIONS.

INTENSIFICATION OF THE GROUP'S PATENT LICENSING ACTIVITY.

# IMPROVING CONSUMER EXPERIENCE ) THE KUDELSKI GROUP



# **ENGINEERING EXCELLENCE**

The Kudelski Group is an undisputed expert in securing data, content and assets across the entire digital ecosystem. Kudelski's solutions enable customers to grow in their markets with the necessary confidence.

# **TECHNOLOGY PIONEER**

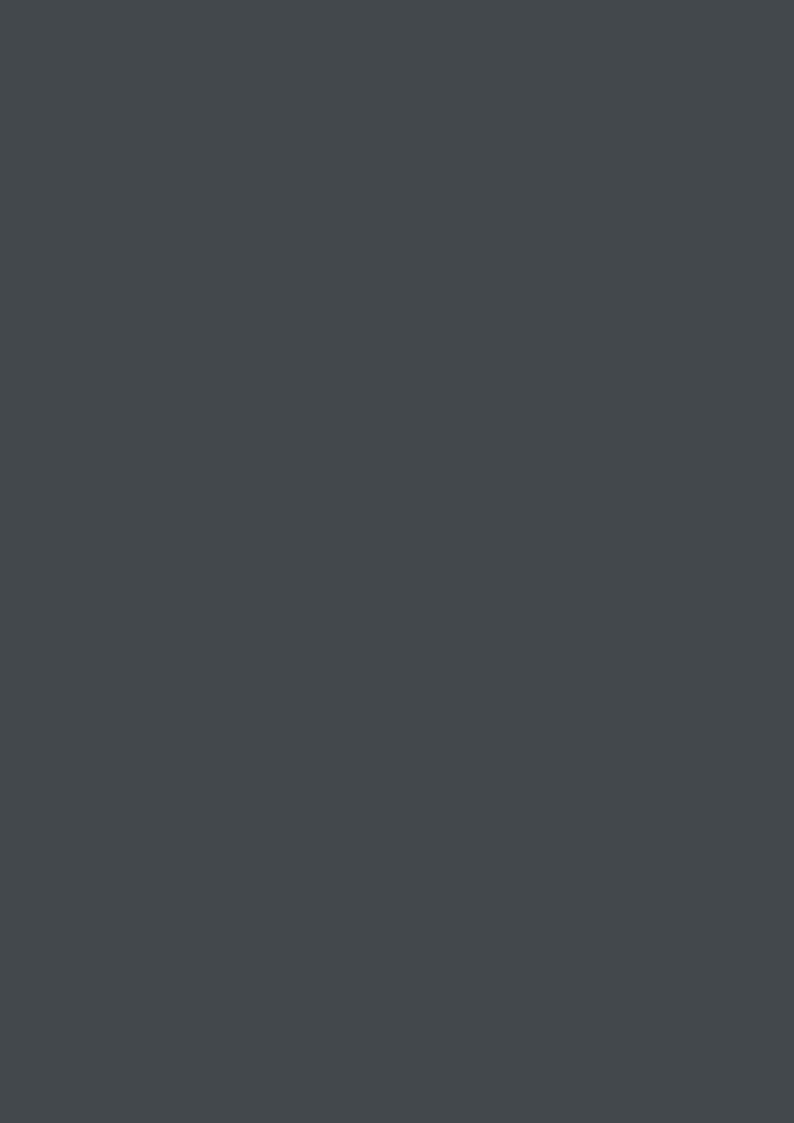
The Kudelski Group has been a pacesetter for decades. Every day, passionate and talented people develop innovative solutions that fuel the 5 300 patent-rich intellectual property portfolio of the Group.

# **SERENITY PROVIDER**

Thanks to highly advanced technologies that enable intuitive interactions, the Kudelski Group solutions simplify the life of more than 500 million consumers in the world every day.

More than 500 million users enjoy Kudelski Group solutions every day

# INTEGRATED DIGITAL TELEVISION



### CAPITALIZING ON A STRONG FOOTPRINT

) INTEGRATED DIGITAL TELEVISION

With 30 years of experience in the digital television industry, the Kudelski Group develops and delivers a wide range of highly secure content protection solutions addressing the needs of the digital television ecosystem across Internet, satellite, cable, terrestrial and hybrid end-to-end transmission systems. The Group's solutions enable the deployment of advanced services with the appropriate level of protection, providing consumers with a thrilling viewing experience.

The activities of the Kudelski Group's integrated Digital Television (iDTV) segment are carried out by its affiliated companies operating under the NAGRA, CONAX, NEXGUARD and SMARDTV brands. These companies address today's dynamic, connected and multiscreen TV landscape through an array of products, solutions and services that seamlessly work to help generate and sustain pay-TV service providers' revenues.

The Group also offers cybersecurity solutions. In charge of this sector, Kudelski Security leverages the Group's long-standing security expertise in pay-TV to other industries, including public and private sector organizations and institutions.

The innovations resulting from the Group's experience and pioneering history are integrated in a global Intellectual Property program aimed at optimizing the Group's 5 300 patent assets through a number of development, protection, licensing and cross-licensing initiatives.

# **CONTENT PROVIDERS**





CONTENT AGGREGATION



SERVICE CREATION



**CONTENT DELIVERY** 





**VIEWERS** 

# **CONTENT PROTECTION**

End-to-end multi-device security platform

System integration

### BUSINESS EFFICIENCY

Actionable intelligence

Compelling interfaces for a seamless viewing experience

USER EXPERIENCE

### INDUSTRY CHALLENGES WE ARE ADDRESSING

Securing content in a connected environment to enable financial viability of the ecosystem \$ 90B protected revenues

Great TV
experience
- seamless,
anywhere, on
any device

+300M devices deployed

Support operators and content providers in developing their business \$ 197M R&D investment (2016)

Optimize integration and deployment speed & costs for operators

550 clients operators worldwide

# **NAGRA** PREMIUM CUSTOMIZED SOLUTIONS

) INTEGRATED DIGITAL TELEVISION



NAGRA has unparalleled know-how and experience in the design of complete end-to-end secure digital pay-TV solutions. It is the leading provider of content security solutions worldwide and the strategic content security partner to more than 130 of the world's largest and most innovative digital television service providers.

NAGRA can take responsibility for overall system integration, from set-top box selection and production to the deployment of a complete multi-device TV service and the integration of an end-to-end platform.

### **SOLID SOLUTION PORTFOLIO LEVERAGING** A LONG-STANDING EXPERIENCE

In order to protect the interests of both pay-TV operators and content owners, NAGRA takes a comprehensive system approach to security. The NAGRA range of content protection solutions is designed to be capable of continuous evolution and dynamic upgrades to counter any security risks, based on the use of state-of-the-art security tools and the extensive experience gained in worldwide deployments for broadcast and IPTV environments.

### **END-TO-END CONTENT PROTECTION**

END-TO-END CONTENT PROTECTION

NAGRA provides operators with the right combination of technology and services enabling them to achieve their business objectives and address consumer expectations. NAGRA's full range of broadcast and connected security solutions is designed to deliver any content over any network to any device. The solution portfolio also includes media risk management services ranging from

anti-piracy to more advanced cybersecurity services to protect a service provider's delivery infrastructure, CRM systems, payment systems and brand reputation.

### **EVOLVING MARKET WITH STRONG OPPORTUNITIES**

The continuous evolution of the content distribution industry is bringing new players such as telecommunications and Internet companies, while also enabling traditional operators to seize new opportunities, expand their offering and create new business models. An increasing number of pay-TV operators are becoming multi-network, driven by strong broadband penetration, mass consumer adoption of open consumer electronics devices, and the business need to create attractive services. NAGRA provides a unified security solution that allows operators to implement the appropriate level of protection on any device for any type of content.

### **BROADCAST**

ON SITE - HOSTED

### CONNECTED

ON SITE - HOSTED - PUBLIC / PRIVATE CLOUD

LEVEL OF PROTECTION VALUE OF CONTENT									
NAGRA SOLUTION NAME	PROTECT	GUARD	COMMAND	CONNECT					
DESCRIPTION	Chip-secured embedded solution for medium value	Premium smartcard-based solution for	and 4K content	SECURE PLAYER	TRUSTED EXECUTION ENVIRONMENT	NAGRA ON-CHIP SECURITY			
	content	high-value content		Pay-TV-centric software player for open consumer electronics devices	Solution supporting broadcast, multicast, OTT and in-home distribution of premium content to devices	Provides the highest possible level of security using NAGRA On-Chip Security giving service providers an IP-native, 4K-compliant security solution			
	WATERMARKING AND EINGEBPRINTING - NEXGUARD								
ADDITIONAL CONTENT PROTECTION SOLUTIONS									
		ANTI-PIRACY INTELLIGENCE - ANTI-PIRACY SERVICES							

# Secure framework for implementing, controlling and updating anti-piracy

**NexGuard** 

NAGRA NexGuard embeds a secure watermarking client in the set-top box, while also implementing a server-side watermarking solution for content delivered to any device.

Watermarking is poised to become one of several key technologies that will enable pay-TV service providers to acquire rights to exclusive, high-value content like Ultra HD, and better track and shut down illegal redistribution of exclusive linear content like live sports.

### Direct-to-TV security technology

**TVkey** 

TVkey enables consumers to receive premium 4K pay-TV channels directly on supported televisions with a simple TVkey USB dongle. The TVkey framework is based on a NAGRA-designed root of trust that enables strict enforcement of usage rules as required by Hollywood for the protection of high-value content.

In January 2017, NAGRA and Samsung established a new co-venture to license TVkey technology to industry stakeholders. TVkey will be used on select new Samsung TVs. MStar Semiconductor, a leading global semiconductor company for display and digital home solutions, also announced its plan to adopt TVkey in its EMC SoCs for 4K Ultra HD HDR televisions.

### Procedural, technical and legal anti-piracy expertise

**Anti-Piracy Services** 

NAGRA's large, multi-disciplinary team of experts provides deep insight into broadcast and online piracy and helps service providers monitor, identify and react to pirated services and content with all necessary procedural, technical and legal means.

Security certification NASC

NAGRA Advanced Security Certification (NASC) is a specification and certification process for the entire pay-TV ecosystem, ensuring the basis for the highest level of protection over time.

# NAGRA INTUITIVE USER EXPERIENCE

> INTEGRATED DIGITAL TELEVISION > CORE ACTIVITIES

Media content delivery continues to be transformed by the adoption of ultra-high definition screens, smartphones, tablets and other devices with multimedia capabilities. Consumers now have multiple options of watching an increased quantity of content when they want it and where they want it. The user interface plays a major role in enabling consumers to discover content seamlessly, on the device of their choice.

New technologies, in particular 4K definition, represent another major TV upgrade cycle and bring new opportunities in terms of user experience. The user experience is playing a major role in users' choices and subscriber retention in pay-TV.

### A DEDICATED USER EXPERIENCE STUDIO

NAGRA OpenTV's user experience studio team based in California develops groundbreaking user interfaces, from standard definition to 4K ultra-high definition, whose simple and efficient design captivates viewers, engenders loyalty and offers operators the opportunity to reduce churn and monetize their services.

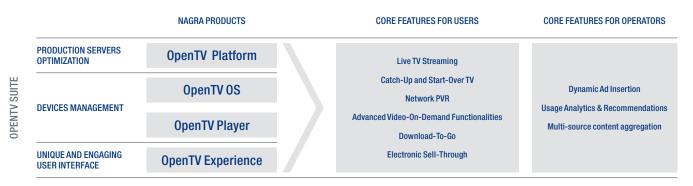
### ALL-IN-ONE PLATFORM TO SERVE THE ENTIRE ECOSYSTEM

OpenTV's operating platform enables service providers to deliver an integrated TV experience to consumers across different networks and services. It serves as the foundation for a multi-service home platform. The platform includes a suite of user experience solutions enabling operators to deliver feature-rich pay-TV services with a seamless user experience.

### A CONSISTENT EXPERIENCE ACROSS ALL DEVICES

OpenTV's lineup of user interface and user experience products helps pay-TV service providers respond to the challenges created by the rapid evolution of television technology and television consumption habits.

These products are designed to deliver an engaging, entertaining and fully immersive, connected entertainment experience to consumers, seamlessly blending the broadcast and Internet worlds.



**OpenTV Platform** 

### From TV to mobile phone, from PC to tablet

NAGRA OpenTV Platform is a powerful set of innovative and modular components offering service providers the tools to manage, secure and operate a wide range of media services across multiple delivery networks, devices and content types in a totally seamless manner.



### Latest-generation television operating platform

NAGRA's OpenTV OS is a new breed of operating system for set-top boxes. It combines the reliability of broadcast with the flexibility of Internet to deliver a wide range of services, features and functionalities (live TV, VOD, nVOD, catch-up, start-over, follow-me, games, social TV) and a whole range of connected home services.





### Cutting-edge end-to-end user experience turnkey platform

A managed, configurable cloud-based platform delivering the best of live television and streaming services for the pay-TV industry. through an intuitive and immersive "all-in-one-place" viewing experience in 4K Ultra HD and HD.

OpenTV Player leverages NAGRA's expertise and harnesses state-of-the-art user experience, device, content security, streaming and cloud technologies that seamlessly work together in the background.

### **OpenTV Player**



### State-of-the-art user interfaces

The consumer experience and satisfaction with a service is paramount in today's multi-faceted TV market. The OpenTV Experience focuses on easy navigation, quick content discovery across live TV and VOD/ SVOD, multi-platform adaptability, access to applications, built-in recommendations and social features and many other key features, all driven through a highly tuned User Interface.

### **OpenTV Experience**



# NAGRA SUPPORTING CUSTOMERS IN THEIR NEW CHALLENGES

) INTEGRATED DIGITAL TELEVISION ) CORE ACTIVITIES

NAGRA's priority is to help its customers grow their business. Its bundled offerings, integrated solutions and additional services are designed to deliver the most efficient response to the market challenges that operators are facing. NAGRA provides the tools that enable customers to keep costs under control, save time while being efficient and rolling out the most attractive services to retain consumers and attract new ones.

### REDUCING SETUP AND OPERATIONAL COSTS

NAGRA provides integrated solutions enabling operators to launch new operations and services with quick time-to-market in the most cost-efficient manner. Its open architecture solutions integrate easily into an existing infrastructure, thanks to NAGRA's partnerships with multiple set-top box providers and other technology providers.

NAGRA's scalable solutions address the current needs of operators, with the ability to increase capacity as business requires.

### N





### MAKING THE MOST OF THE RELATIONSHIP WITH USERS

NAGRA's user interface experts develop stunning user experience tools and interfaces, taking into account the ever increasing importance of the consumer within the digital TV ecosystem. NAGRA also provides operators with the tools and the analytics enabling them to know their customers better, understand the trends and offer consumers the best experience.

# INCREASING THE RELEVANCE OF OPERATORS THROUGH NEW BUSINESS MODELS

NAGRA provides solutions as well as innovative and flexible business models that are designed to accelerate the pace of innovation in the digital television industry and deliver next-generation technology. Its solutions and services enable operators to be more pro-active, anticipate market trends and needs and launch new services and functionalities cost-effectively while managing the related risks.



### **Integration services**

NAGRA manages full system integration for its customers. Integration projects focus on on-time and on-budget delivery, ensuring no service interruption for the whole duration of projects. These services rely on NAGRA's extensive knowledge of solutions and ecosystems gained over the past 25 years.



### One-stop-shop platform for pay-TV analytics

**NAGRA** Insight

Insight enables operators to address specific business issues through actionable business intelligence and an iterative approach. With Insight, operators can collect and connect data sources, create and share reusable analysis, share actionable outputs with operations for immediate action and measure the impact of actions on predefined key performance indicators in real time.



### Development of applications for digital TV

**Apps** 

NAGRA's Apps Team develops applications especially designed for television. NAGRA's app store includes more than 70 applications developed to date. These apps are an ideal add-on to TV programs, allowing users to enhance their experience.



# NAGRA 2016 MARKET HIGHLIGHTS

> INTEGRATED DIGITAL TELEVISION > CORE ACTIVITIES

### **AMERICAS**

In the United States, the deployment of NAGRA COMMAND at Dish is well under way with about 1.2 million total devices delivered since the inception of the project including 800 000 devices in 2016. The NAGRA COMMAND technology defeats popular forms of piracy like control word sharing and paves the way for premium 4K services.

Still in the United States, NAGRA continued to strengthen its long-term relationship with the fast growing Altice Group.

Altice USA, the fourth largest U.S. cable operator, selected NAGRA to provide its content protection solution and multiscreen platform to launch the operator's new 4K Ultra HD cable service and enable an all-screen connected home environment.

Altice USA provides residential and business services to more than 4.6 million customers across 20 states and is offering digital cable television, high-speed Internet, voice, WiFi and data products and services to keep its customers connected anywhere across any device.

NAGRA CONNECT – NAGRA's converged CAS/DRM security solution for broadcast, IPTV, OTT and the connected home – along with the NAGRA OpenTV Suite, will allow Altice USA to deploy new IP and QAM-based content including 4K Ultra HD. Through the use of advanced encryption technology, the NAGRA solution can efficiently coexist within legacy U.S. cable systems while avoiding duplication of precious bandwidth and also enabling an open choice of set-top box suppliers.

Cable ONE continued its transition to an all-digital network. In 2016, Cable ONE concluded their 41 city upgrade of all-digital by implementing the final city with their NAGRA all-digital technology, which includes Conditional Access, User Experience and middleware, a NAGRA-provided set-top box and NAGRA System Integration Services.

In Brazil, during the Olympics, NET was able to offer its customers 56 different channels of Olympic content, a robust line-up of content that beat the competition. This was achieved thanks to NAGRA's integration of 40 channels over IP into the current broadcast channel environment, allowing delivery of this content in the

exact same form as the regular NET content. Olympic content was also available in 4K format in set-top boxes integrated with NAGRA's CAS, OpenTV5 and User Guide.

Throughout 2016, NET continued to deploy OpenTV5 set-top boxes and started to provide access to its content Over-The-Top using NAGRA's security, player and OpenTV Suite of management platforms. NAGRA also added more value to its OpenTV5 environment at NET with Replay TV and enhancing IP delivery methods in parallel to broadcast, amongst many other new features.

The GLOBO SatHD Regional distribution of Globo's content countrywide saw substantial growth in 2016, more than doubling its users' base using NAGRA's system.

VIVO, the Brazilian company of the Telefonica Group, selected NAGRA's security solutions for their new IPTV/OTT platform. Still in Brazil, NAGRA was selected by Telefonica to provide the DRM/CAS technology for their new IPTV product offering. NAGRA will be supplying its new CONNECT conditional access product which is a software-based CAS system conducive to both IPTV networks and DRM for open retail devices.

In Colombia, AMVL launched its full modernized cable platform with NAGRA technology. NAGRA supplied a state-of-the-art user experience along with its OpenTV5 platform and its OpenTV Suite of content management platform. NAGRA was also selected to provide an extensive upgrade to the platform to add catch-up TV, start-over TV and nDVR (network Digital Video Recorder). AMVL will be the first cable operator in the region to offer such modern technology to their client base. The nDVR feature allows every client in every outlet in the home to connect to the cloud to store and replay TV shows that were previously recorded. This approach allows operators to save on the cost of supplying hard drives to every set-top box in every outlet in the house.

In Panama, NAGRA supplied the set-top box platform used to offer pay-TV services over satellite for consumers who are not connected to the C&W/LGI Panama cable network. The set-top boxes are supplied by SmarDTV and embed NAGRA's technology.

SmarDTV is supplying the next generation of set-top box for Dish Mexico's satellite platform. The new cost-effective set-top boxes, produced in Mexico, provide a wide variety of features. They embed NAGRA's Conditional Access System and the Inview user experience solution, specifically customized for Dish Mexico.

Telefonica LatAm concluded a long-term agreement with NAGRA to supply a conditional access system and media security services for their operations throughout the region. NAGRA is working with Telefonica to ensure they have the newest technology and services available for platform security in the region.

NAGRA also rolled out the next generation connected set-top boxes to support OpenTV5 middleware with the Telefonica-supplied User Experience. This allows Telefonica to offer advanced services to their client base in a cost effective manner, including the ability to use Internet-supplied subscription video-on-demand services to enhance the Telefonica broadcast pay-TV package. This product will be used in Peru, Chile and Colombia.

### **ASIA - PACIFIC**

With the recent momentum in the India cable digitization, NAGRA crossed the 10 million cable subscriber milestone which is a significant achievement in less than five years. With the Phase 3 and 4 digitization underway, there is a tremendous growth potential not only for converting analogue subscribers to digital but also for adding new services for this market like high definition, hybrid and OTT.

The Beximco group of Bangladesh has awarded NAGRA a long-term contract for its DTH services. With a population of over 150 million, about 35 million TV households and less than 20 percent cable TV penetration, Bangladesh offers a huge potential for DTH services in the years to come.

In Singapore, NAGRA has successfully integrated Netflix on StarHub OpenTV5 IPTV set-top boxes. The service was launched in March 2016 and provides the highest video quality.

In Vietnam, VTVcab has selected NAGRA OpenTV5 middleware and SmarDTV's hardware to deploy a next generation 4K set-top box, managed by the full NAGRA Conditional Access System security and OpenTV Suite business backend.

In South Korea, NAGRA extended its content protection partnership with Korean satellite broadcaster KT Skylife. In addition to renewing the smartcard-based pay-TV security, this contract also includes NAGRA CONNECT two-way cardless security solution. NAGRA CONNECT will allow KT Skylife to secure the expansion of its 4K Ultra HD service and implement a flexible two-way content protection solution across multiple networks.

KT Skylife successfully launched its 4K Ultra HD offer to subscribers in June 2015. Today, its 24/7 satellite broadcast of five 4K Ultra HD channels makes KT Skylife the operator with the most comprehensive line-up of 4K Ultra HD channels in the world. Finally, NAGRA delivered to Skylife its new TVkey CAS Dongle solution for Samsung iDTV, as a proof of concept which will enable KT Skylife to promote its 4K Ultra HD offer with Samsung.

Passing 5.5 million subscribers the Taiwan cable market continues to show strong growth for NAGRA. One of NAGRA's customers, Taiwan Broadband Cable, deployed close to one million OpenTV5 set-top boxes, making it the largest OpenTV5 deployment in Asia. Another NAGRA customer, kbro, launched its island-wide OTT service on NAGRA OpenTV Suite platform and successfully expanded its B2B OTT service into Taiwan Mobile Group.

In Australia, Foxtel continued to deploy its iQ3 set-top box, including advanced services such as start-over, reverse electronic program guide, subscription video-on-demand, transaction video on demand and pay-perview, which are delivered by the NAGRA OpenTV Suite.

# NAGRA 2016 MARKET HIGHLIGHTS

> INTEGRATED DIGITAL TELEVISION > CORE ACTIVITIES

### **AFRICA**

2016 was a successful year for the Group in Africa with the signature of several new customers as well as deployments with existing clients.

In South Africa, Sentech partnered with NAGRA to launch its Satellite Gap Filler program in order to bring service to areas not covered by its DTT network. In the same market, Platco, a subsidiary of the eTV Group and Africa's fastest growing DTH operator, switched from a competitor to NAGRA's cardless security technology for its new Openview HD service offering, which was successfully launched in November 2016.

In Nigeria, the National Broadcasting Commission is using NAGRA for its Analog Switch Off (ASO) projects and launched in April 2016 in Jos, followed by its Gap Filler element in August and Abuja in December.

In Ghana, KNET, the government appointee for the Analog Switch Off project, successfully deployed a NAGRA platform able to handle both DTT and DTH in October 2016 and will start deploying set-top boxes for both DTT and DTH in early 2017.

NAGRA and SmarDTV also contributed to the success of the commercial launch of terrestrial pay TV in Africa.

In Africa, SmarDTV secured the CANAL+ Overseas business for the launch of their new bouquet on the African Terrestrial Network. SmarDTV's solution guarantees a high quality of image and sound, as well as installation flexibility with an easy-to-use and direct connection to the terrestrial antenna.

Finally, Canal+ Afrique launched pay-TV services named "Easy TV" in Congo and in the Democratic Republic of Congo.

### **EUROPE**

In Portugal, NAGRA was selected to provide its content protection platform NAGRA CONNECT as well as its OpenTV Suite multi-screen solution suite to Portugal Telecom, the market leader in fixed, mobile, B2B and B2C communications (acquired by Altice Group in 2015).

Still in Portugal, NAGRA CONNECT was chosen by NOS Comunicações SA, a leading pay-TV service provider, for its brand-new 4K Ultra HD RDK (Reference Design Kit)-enabled set-top box.

In Spain, Telefónica kept a good growth track on their OTT platform based on the OpenTV Suite. Lately, Telefonica has been leveraging NAGRA's technology and security to expand services on high-speed trains through an agreement with RENFE, the state-owned company operating the train service in the country.

Euskaltel, a regional cable operator in Euskadi and Galicia also selected Nagra CONNECT to protect cable, IP and OTT networks from standard definition up to 4K quality.

Finally, NAGRA and Groupe Canal+ signed a multiyear framework agreement to secure Groupe Canal+ content in its subsidiaries (France, Poland, Caribbean, Africa, Vietnam, Madagascar and Mauritius) and to deploy the NAGRA Insight analytics solution. The security technology includes NAGRA CONNECT, NAGRA PROTECT and NexGuard combined with cybersecurity services.





































NAGRA IS PROUD TO SERVE ITS CUSTOMERS WORLDWIDE

# CONAX

# **MODULAR COST-EFFECTIVE SOLUTIONS**

> INTEGRATED DIGITAL TELEVISION > CORE ACTIVITIES



Conax provides flexible, cost-effective content security solutions and total service protection for digital TV services for telecommunication companies, cable, satellite, IP, mobile, terrestrial and broadband operations, representing 425 customers in 85 countries.

Conax focuses on developing standardized, pre-integrated solutions, tapping a global partner network to provide optimal operator choice in end-to-end complete platforms.

Conax provides pay-TV operators with a uniquely packaged content protection approach that is ready to deploy. Along with this solution Conax provides pay-TV operators with security audits to prevent a wide range of content piracy including attacks from unmanaged networks. All Conax solutions are based on a single unified Conax Contego security back-end which effectively reduces cost and complexity.

### HIGHLY EFFICIENT, MODULAR, COST-EFFECTIVE **OFF-THE-SHELF SOLUTIONS**

All Conax solutions are based on Conax Contego unified security back-end. This provides customers with a simplified platform model encompassing flexibility and scalability of operations, with reduced Capital Expenditures and operational complexity. Conax prioritizes open partnering and pre-integrated solutions to enable operators to select from an attractive portfolio of complete ecosystems. Conax provides operators with a 360 degree, holistic security approach encompassing expert guidance, operational audits and content security.

In 2016, Conax enhanced its cardless chipset portfolio with leading chip manufacturers MStar Semiconductor, ALi Corporation and Broadcom.

Additionally, Conax strengthened its Connect Partner Platform program. The ongoing integration of a broad variety of new partners in this ecosystem enhances Conax's open partnering strategy and enables operators freedom of choice in end-to-end solutions. This program today confirms thirty platform participants.

### MORE THAN 200 TECHNOLOGY AND SERVICE PROFESSIONALS FROM OVER 26 COUNTRIES

With core development teams based in Oslo, Norway, Conax has 11 regional offices in EMEA, the Americas and Asia, including a Global 24/7 Support Center in Delhi, India. The company employs over 200 technology and service professionals from over 26 countries. From 2015, the company has captured Kudelski Group synergies through shared infrastructure in Delhi, Singapore and Beijing.

### **INCREASING FOOTPRINT IN EMERGING MARKETS**

Conax's focus moving forward is on new customers in emerging growth markets such as Africa, Asia/Pacific and Latin America and the deployment of new and advanced services with existing customers. Conax has a strong project pipeline with advanced solutions projects and cloud-based services.

### **GLOBAL PARTNER HIGHLIGHTS**

Conax further developed its network of strategic technology partners, client device partners and reseller agreements for enabling the delivery of end-to-end solutions. This partnering strategy allows Conax to offer its leading security technology with complementary technologies to any operator, on a variety of scales, anywhere in the world.

### ISO CERTIFIED FOR ORGANIZATIONAL EXCELLENCE AND DEVELOPMENT STANDARDS

Committed to quality and security, the Conax management system is built on a structure of robust processes for quality and continuous improvement based on the strict regimes required for ISO 9001 and 27001 certificates. In 2016, Conax was awarded renewed certificates for compliance with these two international standards.

The Conax Contego unified security platform provides consistent handling of conditional access and DRM across broadcast, OTT, terrestrial, IPTV, cable and satellite delivery networks and devices.

Transitioning to a service-based business model, Conax introduced and deployed in 2016 its new Contego-as-a-Service (CaaS) cloud platform. This solution provides operators with a highly sustainable growth model through low capital expenditures, reduced operational complexity and operational security managed by Conax. The solution also enables premium scalability, easy integration of new advanced features and complementary partner technologies.

The Contego Multi DRM solution provides flexibility in securing content across technologies and multiscreen devices. In 2016, four new customers deployed this solution and four new customers selected the Conax GO Live OTT offering for launching live TV on iOS and Android.

Launched and deployed in 2016, the new CONAX Connected Access IPTV solution is built on a flexible security architecture handling both Conditional Access and DRM, delivering different levels of security based on requirements and available technology in each device, from free-to-air content to 4K/UHD content.

The Conax range also includes an end-to-end secure 4K watermarking architecture combining the NexGuard watermarking technology and Kudelski Security's forensic detection services.



#### 35

# Best-in-class security-compliant Conditional Access Modules

Conditional Access Modules (CAMs) provide operators with a user-friendly consumer device for accessing digital broadcast content. Removing the need for a set-top box, CAMs are highly suitable for both the main TV and additional TVs in the home. The latest product is the CI+ 1.3 SmarDTV INSTANT ACCESS CAM.

# Conditional Access Modules



## CONAX 2016 MARKETS HIGHLIGHTS

) INTEGRATED DIGITAL TELEVISION ) CORE ACTIVITIES

In 2016, Conax displayed continued strength demonstrated in the conclusion of eleven new customer contracts, encompassing six broadcast operations, two contracts for advanced services and three operators deploying Conax' newly launched cloud services platform. These comprise a spread of operators from Europe, Latin America and Indian markets. The company also signed twenty additional contracts with existing customers for advanced services, cloud services, cardless technology and more.

### AMERICAS STRENGTHENING COMPANY POSITIONING

Conax experienced strong growth in Latin America while strategic partnerships continued to create significant added value throughout the region. Conax secures over 10 million active devices and 40 DTH, cable, terrestrial and IPTV operators across the Americas and has experienced positive continued development since its first deployment in this region in 2005.

2016 saw the deployment of a Conax-secured endto-end solution for a new digital TV Everywhere service platform called BLACK, for Supercanal, the third largest cable TV operator in Argentina. The solution will enable Supercanal to expand its offering with a comprehensive bouquet of on-demand and OTT services from leading content providers. Using the latest hybrid set-top boxes and multiscreen user apps will allow viewers to easily access content across multiple screens such as tablets and smartphones.

## ASIA - PACIFIC MAJOR CONTRACTS

Volumes in the Asia Pacific region overall remained stable. Joint projects with strategic partner and customer, Chinabased Star Times – one of China's top 100 innovation-oriented enterprises – continued to evolve.

An early player in India with operations established in this market in 2002, Conax has played a leading role in guiding Indian operators through digitization. Conax has long-term partnerships serving three of the five largest Multi-System Operators.

Essel Group's Dish TV India Limited, Asia Pacific's largest DTH TV provider, and leading multisystem operator SITI Cable, selected Conax for cardless content protection as one of the key partners for their pay-TV expansion in the region. Based on flagship Conax Contego security hub, the Conax Cardless conditional access technology will be an essential security component integrated in the chipsets, which will enable the use of multiple layers of content protection in the new Dish TV and SITI Cable cardless set-top boxes. The arrangement signifies a continued commitment between the Essel Group and Conax to further their long-term partnership and jointly bring new generations of technology to the Group's platforms.

In the Philippines, Cignal TV selected Conax Cardless content protection technology for their next phases of growth. A subsidiary of telco group, PLDT, Cignal is the leading Philippines DTH satellite provider. Cignal is deploying new generation standard definition, high definition and hybrid DTH set-top boxes with Inview middleware and secured by CONAX Cardless technology.



"Conax has been a long-term partner and we believe their strong security solutions will provide an important layer of security to our growing pay-TV business already servicing over 13 million subscribers."

Jawahar Goel, Managing Director



"Conax' strong track record provides a de facto standard for European terrestrial pay-TV. Conax is delivering a highly flexible content security solution that we are confident can support our growth and future roadmap."

Predrag Culibrk, Chief Executive Officer

#### AFRICA LONG-STANDING COMMITMENT

Already securing content revenue, operations and set-top box infrastructure for 34 DTH and DTT operators across the continent, Conax is a leading driver for Africa's pay-TV. With a strong regional track record in secure digital migration and innovations for a robust operator roadmap, Conax is continuing its strong commitment to the African market by providing pay-TV operators with future-ready solutions, expertise and the guidance to build their business into the future for next-generation consumers.

The partnership with Chinese operator StarTimes, the fastest-growing pan-Africa digital TV operator, continued to evolve around new DTT deployments as well as next-generation consumer propositions.

In Nigeria, terrestrial pay-TV operator Communications Trend Limited (CTL) was the first customer to deploy the newly launched Contego-as-a-Service cloud-based content protection platform. Its MMDS operator CTL Cable provides a bouquet of services spanning twelve major cities in Nigeria. The upgrade to the cloud-based service provides CTL Cable with a robust, flexible and secure solution with premium scalability, fast-time-to-market and low investment for adopting new consumer services. CTL Cable has been a Conax customer since 2003.

## EUROPE BUILDING ON A STRONG EXISTING CUSTOMER BASE

Conax has for many years held a strong presence in Europe, serving a wide variety of operators in its traditional markets of Northern, Western and Eastern Europe. The European market showed an increase in Conditional Access Module performance, in addition to strong volume growth with small and mid-sized operators across the region.

A key focus in 2016 included further developing Conax' existing customer base through the introduction of additional new solutions that provide tier 2 and tier 3 customers with off-the-shelf, low risk business models for secure entry to multiscreen services – preparing operators for the next wave of opportunity in content distribution and increasing consumer expectations, and developing their platforms to stay relevant.

In 2016, Conax displayed strong growth in the region. This growth reflects new customers, upgrades to the new cloud-based Conax Contego-as-a-Service platform, the first deployment of the Conax Connected Access CAS/DRM IPTV solution and deployment of Conax OTT and multi-DRM services. Conax has numerous contracted OTT projects underway for its benchmark Conax GO Live and multi-DRM solutions in Europe and a strong pipeline for 2017.

Conax announced that Telekom Srbija selected Conax Contego unified content security solution to secure its expansion into the DVB-T2 pay-TV arena. The highly flexible and scalable Conax architecture will provide Telekom Srbija with a natural migration path for future upgrades and additional consumer offerings. The next generation terrestrial platform will deliver nationwide pay-TV services in a completely new offering for Serbian viewers.

Conax will provide complete protection for the Belgrade-based telco's new expanded business model enabling the deployment of new-generation consumer services. Conax Contego enables the secure and seamless integration of all major distribution technologies and formats including UHD/4K, unified CAS/DRM IPTV, advanced multi-DRM / OTT services offerings and new hybrid network combinations.

#### 38

# SMARDTV SMART DEVICES DESIGNED TO HOST NAGRA AND CONAX SOLUTIONS

) INTEGRATED DIGITAL TELEVISION ) CORE ACTIVITIES

#### **SMAR** DTV

SmarDTV develops state-of-the-art consumer electronic devices for the B2B4C market. The product portfolio includes of a cost-effective range of interactive TV modules and Conditional Access Modules based on the CI Plus standard, a full range of pay-TV operator and retail level set-top boxes (Broadcast, HbbTV), media servers and gateways designed to operate on satellite, cable, terrestrial, IPTV and OTT networks. SmarDTV includes the latest security solutions from the Group including NAGRA PROTECT, NAGRA CONNECT, NAGRA COMMAND and Conax card-based and cardless conditional access solutions.

#### PREMIUM CONTENT DELIVERED DIRECTLY TO TV SETS

SmarDTV is the worldwide leader in Conditional Access Modules (CAMs) that use DVB CI (Common Interface) and CI Plus standards. By integrating SmarDTV's Conditional Access Modules in their television ecosystem, operators can deliver premium content directly to integrated TV sets through broadcast or broadband IP networks.

#### **DISRUPTIVE CAM USE CASE**

NexMedia – the terrestrial broadcaster of SCTV, the second largest television network in Indonesia – selected SmarDTV's Conditional Access Modules to deploy and secure pay-TV and entertainment services, NexDrive, for cars on their DVB-T2 platform. With this initiative, SmarDTV was able to deviate from the standard usage of CAM in a CI Plus TV environment.

#### **DELIVERING INTO THE GROWING 4K MARKET**

SmarDTV has a first mover advantage for the most recent range of technologies from the Kudelski Group portfolio of NAGRA, Conax and OpenTV Suite. Further investment in Android gives SmarDTV a very strong market-ready product portfolio.

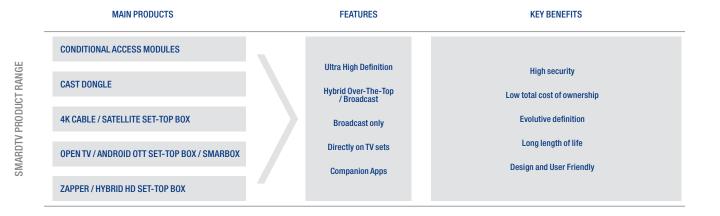
SmarDTV's range of set-top boxes includes a set-top box specifically designed to address the growing 4K consumer market.

In Europe, SmarDTV is proud to have delivered a new 4K Satellite PVR product sold into the German retail market. This product offers up an exciting, immersive viewing experience.

In Asia, SmarDTV has delivered a 4K Hybrid STB, embedding OpenTV OS to VTVcab in Vietnam. This STB integrates the best up-to-date technology for 4K video decoding, Wi-Fi connectivity and Bluetooth capability.

#### **FACILITATING LOCAL MANUFACTURING**

SmarDTV's System-In-Package (SIP) technology has evolved through market deployments in Asia and Latin America. The SIP technology facilitates local manufacturing since all key elements such as security assets and user interface requirements are all pre-integrated within the SIP silicon. The new SIP version selected by Altech UEC for the South African market is based on latest-generation chipsets that bring the highest level of security to the STB/CPE market.



SmarDTV develops Conditional Access Modules relying on the DVB CI and CI Plus standards which are plugged directly into the TV set to decrypt pay-TV services. SmarDTV is promoting innovation in CAMs as a driver in these standards.

The SmarCAM range includes WiFiCAM modules, which enable the seamless reception of hybrid services without the need for a set-top box.

The latest-generation WiFiCAM includes a fast and easy "push-to-connect" configuration button, simplifying consumer connectivity and increasing take-up of value-added pay-TV services. The WifiCAM also reports user data therefore feeding the operator with highly valuable insights on user behavior and device operations for both linear and VOD consumption.





**OTT / IPTV Modules** 

In 2016, SmarDTV extended its module portfolio with the CAST Dongle, which enables users to access premium content via their mobile device (smartphone or tablet) and continue consuming it on the big screen by casting or throwing the content via the Dongle.

With the CAST Dongle, SmarDTV offers an operator-controlled HDMI Dongle thus allowing the service provider to keep control of its device and invent its own business model that fits its goals.

### **CAST Dongle**



**Ultra-High Definition set-top boxes** 

SmarDTV has a family of set-top boxes supporting broadcast, hybrid and OTT distribution networks up to 4K.

SmarBOX is the latest product in the range. It is an ultra-high definition (4K) set-top box enabling content storage and distribution to multiple screens and devices in the home. It is pre-integrated with the OpenTV solution and the NAGRA and Conax conditional access systems and includes a WiFi connexion. The hybrid version, SmarBOX HYBRID, ranges from entry-level to ultra HD models.

#### **SmarBOX HYBRID 4K**



## KUDELSKI SECURITY GLOBAL PROVIDER OF CYBERSECURITY SOLUTIONS

) INTEGRATED DIGITAL TELEVISION ) GROWTH INITIATIVES



Kudelski Security leveraged almost 30 years of the Group's expertise and investments in digital security-related innovation, cryptography, monitoring and research to develop a unique solutions platform in demand around the world. Already the largest pure-play cybersecurity solutions provider in Switzerland, it is now one of the fastest growing firms in the United States.

With more than 300 dedicated employees and offices in Switzerland and the United States, Kudelski Security provides tailored cybersecurity solutions for large enterprise and public sector clients. It has direct acces to the Group's pool of more than 1 000 talented R&D engineers. Its teams of experts use a combination of technology, innovation, and services capabilities to empower organizations to build, deploy and manage effective cybersecurity programs.

Kudelski Security's global reach and cyber solutions focus are reinforced by key international partnerships. These include alliances with the world's leading security technology companies that are aligned with internal industry experts focused on offering clients the tools, knowledge and methodologies they need to meet any cybersecurity challenge they face.

#### AN ORIGINAL APPROACH TO CYBERSECURITY

Kudelski Security uses its proprietary Secure Blueprint approach to help clients map their current security investments and – based on an analysis of business objectives, risk appetite and threats – articulate a vision of optimal security. It provides a measurable action plan to help them address the gaps and move towards greater cyber maturity.

Kudelski Security's methodology covers all elements of a client's enterprise security – and recognizes that every organization is unique in their needs and risks as well as in the assets they can leverage.

Advisory consultancy engagements with clients deliver advice and the associated metrics that can be deployed to measure risk and progression toward greater cyber maturity, supported by a software platform that facilitates C-Level communication and engagement across senior leadership and board of directors.

#### **COMPREHENSIVE OFFERING BUILT ON FOUR BUSINESS PILLARS**

Kudelski Security offers extensive capabilities across four business pillars – Advisory, Technology, Managed Security Services and Custom Solutions.

Clients are able to leverage these capabilities to gain true and pervasive visibility into threats, enabling them to reduce enterprise risks, maintain compliance and increase overall efficiencies.

Kudelski Security is built on a unique set of skills, leveraging the expertise of dedicated consultants, engineers and technical specialists based in the U.S and Switzerland.

#### **THE WAY FORWARD**

Kudelski Security continues to implement its multi-dimensional strategy, increasing its offering of industry-leading security technologies and expanding its geographic footprint.

The acquisition of two U.S companies, Milestone Systems (2016) and M&S Technologies (early 2017), and an expanding team of new, senior professionals, fuel its expansion, providing impetus to the effective execution of its strategy.

#### **Advisory Services**

Kudelski Security's Advisory Services engage clients through a strategic cyber program-based approach. Leveraging industry proven models, methodologies and best practices, expert advisors work with clients to identify gaps in the security program and prioritize strategies for improved processes, management and technology. Through its Advisory Services, Kudelski Security empowers Chief Information Security Officers and senior leadership to plan, manage and measure program areas that minimize business risk and strengthen cyber resiliency.



#### **Technology and Technology Services Consulting**

Kudelski Security provides a breadth of technology solutions, supported by end-to-end services to support enterprise security architecture development and technology deployment. The team includes solution architects and senior engineers with the skill sets to help clients design, deploy and maintain an optimal IT security architecture. Services are built on a proven methodology that delivers planning workshops and IT architecture and technology assessments as well as full on-site support.



#### **Managed Security Services**

Kudelski Security's Managed Security Services, delivered from its Cyber Fusion Centers in Europe and the U.S., are built from the ground up to address gaps in the traditional managed security market and drive greater value to clients. Combining a fusion of advanced threat intelligence, disruptive technology and expert analysts, Kudelski Security provides a service that responds to the demands of modern threat detection, containment and remediation and helps clients build stronger cyber resilience.



#### **Custom Solutions**

Kudelski Security provides a unique ability to take on complex projects focused on developing and delivering new innovation to solve its clients' most complex security challenges. Leveraging industry-leading advanced lab capabilities, the resources are in place to provide a specialized range of services – from security evaluations and penetration testing to digital forensic investigations and patent infringement analysis. Kudelski Security's labs have been providing specialist expertise in digital device and chip technology for over 20 years. The Group's Internet of Things (IoT) Security Center of Excellence delivers comprehensive solutions to address security needs relating to the Internet of Things.



#### 40

## KUDELSKI SECURITY 2016 MARKET HIGHLIGHTS

> INTEGRATED DIGITAL TELEVISION > GROWTH INITIATIVES

Kudelski Security continued to expand in 2016, establishing its position as a global provider of solutions that enable enterprise and public sector clients to detect threats and strengthen their cybersecurity posture.

#### **EXPANDED US FOOTPRINT**

In 2016, Kudelski Security established its U.S. headquarters in Phoenix, Arizona, alongside its existing Switzerland-based facility. This location provides a major U.S. office for core Group functions and allows the company to better address the U.S. cybersecurity market needs. The new dual headquarters structure enables Kudelski Security to be closer to the world's largest cybersecurity markets while maintaining its Swiss and international roots.

Within a year following this, the Group acquired two major US-based cybersecurity companies, Milestone Systems (in 2016) and M&S Technologies (early 2017).

Milestone is widely recognized for its strong commitment to clients as well as its deep expertise in network security and complex infrastructure solutions. Its legacy business is in North Central and Southeastern United States. The company has an enviable list of Fortune 500 clients and is regularly named as a top solution partner for leading cybersecurity technology companies.

Based in Dallas, Texas, M&S is a specialist provider of cyber and network security solutions. M&S has a strong reputation for developing advanced network security architectures and solutions that enable effective cyber defenses. The addition of M&S enhances Kudelski Security's technical capabilities and provides it with a strong foothold in the South Central region of the U.S.

#### **NEW STRATEGIC PARTNERSHIPS**

Supporting growth in solutions using its four-pillar strategy, Kudelski Security has pursued strategic partnerships with leading organizations around the world. These include relationships that either enhance its programmatic security approach using Secure Blueprint, or expand its geographic reach.

In 2016, Kudelski Security signed a global agreement with RSA, the security division of EMC, making Kudelski Security one of RSA's leading global solutions providers. Since this initial agreement, Kudelski Security has continued to expand its portfolio of strategic relationships with technology manufacturers, in support of critical areas defined by the Secure Blueprint approach. This enables Kudelski Security to position comprehensive solutions with its clients, using products that have been tested and that can be supported with enhanced services.

Also in 2016, Kudelski Security signed an extended strategic partnership with Kryptus Information Security S.A., an EED Brazilian Security Defense Company. Through this agreement, Kryptus will become Kudelski Security's preferred distribution channel for its portfolio of cybersecurity solutions in Brazil which includes Kudelski Security's innovation capabilities in three key areas: advanced threat monitoring, security audits and assessments, and secure communications.

In addition, Kudelski Security and Kryptus will partner in research and development efforts aimed at creating new solutions to emerging cyber challenges and at the ongoing protection of digital assets of Brazil's public sector and enterprise customers.

#### STRENGTHENING OF THE FOUR BUSINESS PILLARS

During this last year, Kudelski Security reorganized its cybersecurity offering around four business pillars: Advisory, Technology, Managed Security Services and Custom Solutions. Its solutions and services cover the full cyber-risk management lifecycle and enable clients to develop cybersecurity programs that are relevant, effective and business-driven.

The new Advisory consulting services approach has received extremely positive reviews from early clients and industry leading Chief Information Security Officers who have participated in early stages of the development process.

2016 saw sustained growth in the area of Technology Services, including security architecture, assessment, design and review, and solution implementation. The program reinforces the company's position as top reseller for leading technology solution companies, including F5, Palo Alto Networks, Juniper and Check Point.

Ensuring clients are equipped with the knowledge for optimal technology management, the Kudelski Security Authorized Training Center (ATC) continues to provide training in support of all technologies in its portfolio.

In keeping with its disruptive approach to cybersecurity, the Managed Security Services have been developed to detect and block threats more rapidly and help clients remediate more effectively. Comprehensive security device support and security device management have been added to the portfolio, while the 2017 launch of the Cyber Fusion Center in Phoenix and the adoption of industry-leading threat detection and disruption technologies will enable Kudelski Security to provide a premium level of support to its clients.

Powered by the Group's solid R&D investments, engineering expertise, technology and existing intellectual property, innovation has continued to drive Kudelski Security's strategic competitiveness and ability to provide comprehensive cybersecurity solutions.

## INTELLECTUAL PROPERTY MANAGING THE PATENT PORTFOLIO

> INTEGRATED DIGITAL TELEVISION > GROWTH INITIATIVES

With over 65 years of innovation in developing award-winning products dating back to the pioneering NAGRA line of portable recording devices, the Kudelski Group and its subsidiaries have placed a worldwide emphasis on intellectual property. Well-defined intellectual property rights are essential to ensure collaborative development and economic growth that would not be possible otherwise.

The Kudelski Group and its subsidiaries hold 5 300 patent assets worldwide in a variety of technology areas, including digital and cybersecurity, access control, watermarking, digital television and rights management, among other areas. Many of these patents relate to fundamental and valuable technologies with broad impact across many businesses.

#### **DEVELOPING VALUABLE INTELLECTUAL PROPERTY**

The Group's Intellectual Property organization is responsible for setting the Group's overall intellectual property strategy with a focus on protecting, developing, managing and licensing the Group's worldwide patent portfolio and leading the overall innovation programs within the Group.

In 2016, the Group continued its successful execution on its strategic intellectual property and innovation plan by entering into patent licenses with industry giants like Apple and Verizon and IP leaders like RPX Corporation.

There is no "one-size-fits-all" approach to product partnerships and intellectual property licensing. Different businesses have different needs and different technology requirements. To that end, the Kudelski Group seeks business relationships that extend beyond patent licensing. When appropriate, the Group's IP-based agreements incorporate product relationships, technology transfers and cross-licenses into the engagement.

## BUILDING RECIPROCAL IP PRODUCT PARTNERSHIPS WITH KEY PLAYERS

The strength of the Group's patent portfolio and its intellectual property strategies were further validated in 2016 through additional patent licenses with well-known companies including Apple, Twitter, Verizon, Hulu, Yahoo, RPX, in addition to the agreements concluded in 2015 with Bloomberg, Disney, Google and Netflix.

The quality of the companies that the Group has partnered with confirms the quality of its patent portfolio and fundamental research, especially for the most innovative players in the industry.

The Group's broad patent license with RPX provides access to many of RPX's members to Kudelski's valuable portfolio of invention rights and provides business relationship opportunities for the Group in return. This relationship, along with the growing list of other completed IP relationships, provides substantial IP clearance for the Group's Integrated Digital Television and cybersecurity products and services.

2016 also brought an increased focus in supporting the Group's growing cybersecurity business, Kudelski Security. The Intellectual Property organization is enhancing the Group's patent portfolio in this area with new patent filings and developing patentable technology through industry relations.

The Group continues to engage with a number of other companies around licensing, technology collaboration and cross-licensing. The Group will keep executing its plans to invest in innovation and protect and license its intellectual property portfolio.



THE GROUP HOLDS 5 300 PATENT ASSETS WORLDWIDE AND HAS PARTNERED WITH THE MOST INNOVATIVE PLAYERS IN THE INDUSTRY.

## KUDELSKI GROUP INTERNET OF THINGS SECURITY CENTER OF EXCELLENCE

) INTEGRATED DIGITAL TELEVISION ) GROWTH INITIATIVES

In early 2017, capitalizing on the expertise of Kudelski Security and decades of innovation in protecting digital TV contents and devices, the Kudelski Group launched its Internet of Things (IoT) Security Center of Excellence to address demand for increased protection of connected devices.

The Center provides guidance and technology to help companies across all industries secure their IoT innovations over entire product lifecycles.

It offers product developers the ability to focus on their core products while being assured that security is maintained over time, a strategy that can both accelerate time-to-market and enable and protect competitive advantage.

#### LEVERAGING THE GROUP'S 25 YEARS OF INNOVATION

The Group's Security Center of Excellence focuses on addressing demand for increased protection of connected devices, leveraging the Group's 25 years of innovation in the fields of digital content and device protection.

The Group has an unparalleled ability to design ad hoc security specifications to develop and to operate certification programs. Its unique blended approach of hardware and software security in low-power environments is a strong asset, particularly where the challenge in IoT is to provide security over broadly deployed critical systems.

#### SECURITY DESIGN AND ASSESSMENT

The Center of Excellence works with clients to build security into the design and architecture of their products and reduce risks throughout the lifecycle.

For existing products, it carries out in-depth assessments and evaluations to determine security levels of chipsets, hardware and software components. It uses industry standards, best practices and proprietary methodologies to create security recommendations supporting business objectives.

#### **SECURITY POSTURE IMPROVEMENT**

Once vulnerabilities, flaws and weaknesses that may affect the IoT product ecosystem have been identified, the Center of Excellence uses best-in-class technologies and patented mechanisms to implement security controls in embedded systems, software/firmware, communication protocols, platforms and applications.

#### **CYBERCRIME COUNTERMEASURES**

The Center of Excellence provides prompt advice and access to response services in the event of sustained attacks or emerging threats targeting the deployed IoT products and services.

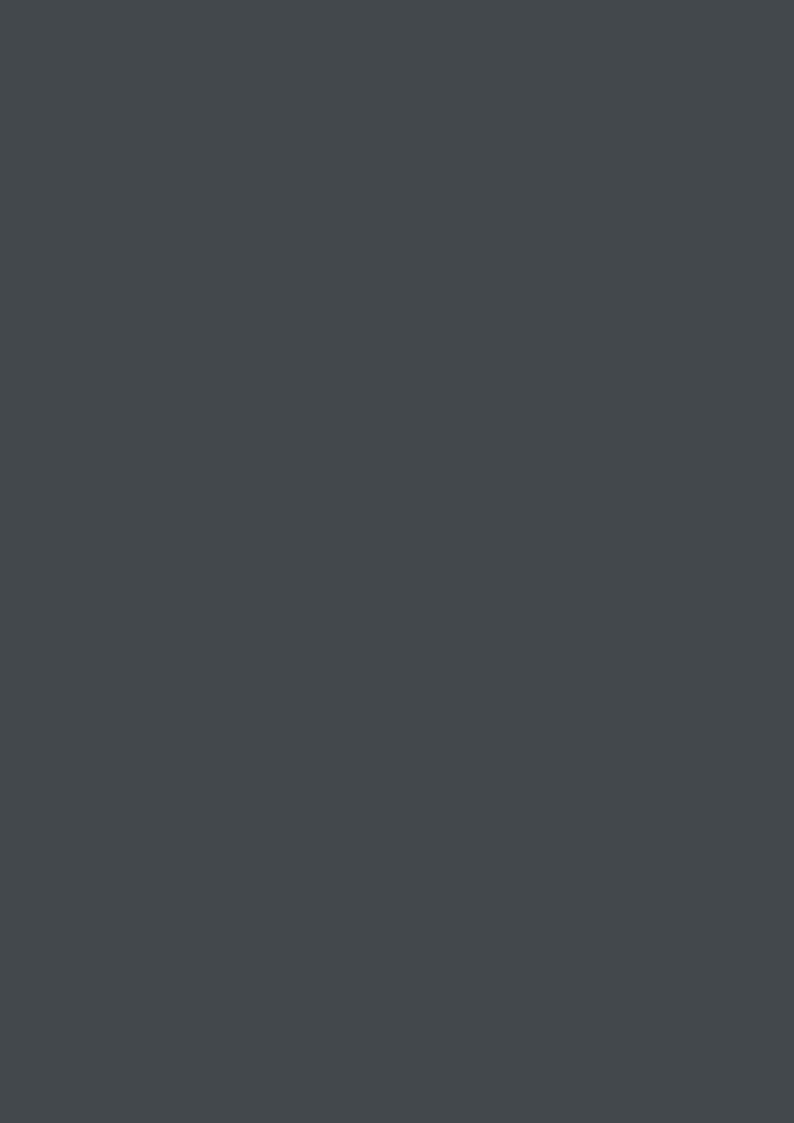
It can embed sleeper countermeasures into devices that can be activated against threats and carry out rapid prototyping of countermeasures powered by threat intelligence from the Group's Cyber Fusion Center.

The Group's legal teams also provide support for litigation.



THE CENTER OF EXCELLENCE PROVIDES GUIDANCE AND TECHNOLOGY TO SUPPORT COMPANIES ACROSS ALL INDUSTRIES SECURE THEIR INTERNET OF THINGS INNOVATIONS OVER ENTIRE PRODUCT LIFECYCLES.

## **PUBLIC ACCESS**



## DESIGNING AND MARKETING COMPREHENSIVE SOLUTIONS TO MANAGE PUBLIC ACCESS

) PUBLIC ACCESS

SKIDATA, headquartered in Salzburg, Austria, carries out the Group's Public Access activities.

The company designs and markets comprehensive solutions to manage access to ski resorts, stadiums, fairs, amusement parks and parking facilities which help infrastructure operators optimize their revenues and drive their business forward.

With a global footprint, SKIDATA manages large-scale, complex projects that involve technological challenges as well as innovative marketing and business models.

SKIDATA stands for 40 years of innovation. Since its founding in 1977, SKIDATA has set standards in access and revenue management with global expert know-how and innovative solutions. The company's broad spectrum of proven standard to customized solutions guarantees every customer the optimal solution to maximize sales and to offer the best comfort.



# SKIDATA FAST AND SAFE ACCESS FOR PEOPLE AND VEHICLES

) PUBLIC ACCESS



SKIDATA is the global leader in access and revenue management solutions, providing fast and safe access for people and vehicles. Over the past years, the company has grown to become the market leader with over 10 000 installations in over 100 countries and more than 1 350 international access experts spread over 25 subsidiaries and 4 joint-ventures.

SKIDATA increased its international footprint during the past year by entering new markets and with more than 700 new installations in 2016. The company also opened offices in Mexico and Dubai.

#### COMPLETE SOLUTION FROM A SINGLE SOURCE

SKIDATA offers innovative and perfectly sized solutions including not only comfortable and secure access systems but also customized sales and marketing channels, easy integration with third-party systems, optimized business processes and professional data management – all from a single platform.

#### ADDRESSING COMPLEX CLIENT REQUIREMENTS

The daily business demands of SKIDATA are becoming increasingly diverse and complex: ensuring quick and convenient access, profiting from the evaluation results of data collected, customizing an efficient workflow, generating sales, integrating third-party systems and satisfying a wide variety of customer demand.

SKIDATA helps to simplify operations management and to ensure sustainable efficiency and revenue optimization to continually drive the customer's business forward.

#### A PIONEER IN SKI ACCESS

SKIDATA is a pioneer and the world leader in the field of access and ticketing solutions for alpine regions. The skiing experience to which guests are accustomed today has been fundamentally shaped by SKIDATA.

In 1977, SKIDATA introduced a cash register as well as printed ski tickets to the market.

The second generation of access readers made complete billing possible in 1983, allowing ski resorts to team up to form larger operating pools for the first time.

In 1987, SKIDATA launched revolutionary contactless ski access systems based on RFID technology allowing skiers to hit the slopes in no time.

#### **INVESTING IN STRATEGIC GROWTH AREAS**

SKIDATA will continue to invest in the strategic growth areas that have brought success since the beginning: further expanding its global presence, delivering complete solutions with a focus on quality, usability and future-readiness of systems and innovations and continuously developing the know-how of its employees.

Capitalizing on its steady growth and technological expertise, SKIDATA is well on track to continue shaping the future of access management by delivering innovative, intelligent and customer-oriented solutions.

In order to grow qualitatively and profitably, the company will also continue placing a major focus on the development of structures and processes, targeting to deliver as much benefit as possible for customers, operators and end-users.

## Off-street parking management solutions #1 worldwide

More than 7 000 operators around the world rely on SKIDATA's expertise for their parking management.

The latest SKIDATA license plate recognition technology makes parking more convenient. Customers drive in and out of the facility without having to stop for tickets. The barrier opens automatically after the license plate of the car has been read. The solution can be used to replace tickets completely or to enhance the ticket information with the license plate as identifier, so that customers can drive out easily and quickly via license plate recognition and without inserting the ticket.

#### PlateTech.Logic / Ticketless



## Access and ticketing solutions for alpine resorts #1 worldwide

The entirely new developed Flex. Gate is the state-of-the-art access device for mountain sports, arenas and leisure parks. The customer defines the features that need to be added – the "long-range" antenna, a Userbox or an integrated camera – or all. The signal light and the recessed handle on the antenna of the mountain version provide skiers and snowboarders with comfort and ease of use.

#### Flex.Gate



## Access and visitor management real time solutions

The web-based solution sweb. Control for simple, centralized operation and monitoring of systems enables operators to manage car parks and facilities virtually from any tablet or smartphone, as well as in any professional control room. It allows operators to access all relevant operational data in real time and to provide assistance to end customers quickly and efficiently, without having to be on site.

#### sweb.Control



## Services supporting implementation and daily system operation

Along with hardware and software, services are an important part of SKIDATA's offering. They include support processes, coordinated solution delivery, know-how transfer through training sessions as well as on-call support available 24/7 provided by specialists in their respective areas.

#### **Expert Services**



## SKIDATA 2016 MARKET HIGHLIGHTS

) PUBLIC ACCESS

PARQUE TOREO - MEXICO CITY - MEXICO



**MIAMI DOLPHINS - USA** 



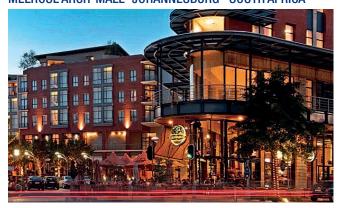
HAKUBA - NAGANO - JAPAN



**WESTPOINT SHOPPING CENTRE - AUSTRALIA** 



MELROSE ARCH MALL- JOHANNESBURG - SOUTH AFRICA



SHOPPING CATUAÍ PALLADIUM - FOZ DO IGUAÇU - BRAZIL



#### CSKA ARENA - MOSCOW - RUSSIA



FOOTBALL CLUB TWENTE - ENSCHEDE - THE NETHERLANDS



**ZERMATT - WALLIS - SWITZERLAND** 



TUNIS-CARTHAGE INTERNATIONAL AIRPORT - TUNISIA



MGM CASINO - LAS VEGAS - USA



**CHERRY CREEK SHOPPING CENTER - DENVER - USA** 



A WORLD LEADER IN THE PUBLIC ACCESS SECTOR WITH MORE THAN 10 000 INSTALLATIONS CURRENTLY DEPLOYED

#### CONTACT

Kudelski SA Route de Genève 22-24 1033 Cheseaux-sur-Lausanne Switzerland

www.nagra.com info@nagra.com

#### **EDITING AND GRAPHIC DESIGN**

Corporate Communication, Kudelski Group

#### **PHOTOGRAPHY**

© Kudelski Group images and external image banks

#### PRINTING

Genoud Entreprise d'arts graphiques SA Le Mont-sur-Lausanne

© 2017 Kudelski SA, all rights reserved

All trademarks and copyrights are the property of their respective owners.

#### DISCLAIMER

This report contains forward-looking statements, including, but not limited to, statements that are predictions of or indicate future events, trends, plans or objectives. These statements are subject to known and unknown risks and uncertainties and could be affected by other factors that could cause actual results, plans and objectives to differ

materially from those expressed or implied in the forward-looking statements. Potential risks and uncertainties include such factors as general economic conditions, performance of the financial markets, competitive factors and changes in laws and regulations.













