

IQ-Pass:

Accelerate and upscale to the next level

Case study on Bachelor level

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Abstract

European business environment has many specific market conditions due to the differences in terms of legislation, culture & language, business practices, etc. Many European companies are in the transition of combining digital transformation (apps, software and platform development) and their traditional industrial bases. Another trend in European business development is consolidation, i.e. merger and acquisitions. Small but very innovative companies can be easily taken over by larger companies. When such a small but innovative company becomes a business unit in of a large organisation after acquisition or take-over, maintaining innovation-based growth can be problematic. By understanding this dynamic and the unique characteristics of European small and medium enterprises (SMEs), students will learn and practise knowledge from key subject areas in identifying market opportunities, developing market entry strategies and a feasible marketing plan for each targeted area.

Keywords

Strategic management, marketing & sales, operational management, post-merge integration, innovation, digitisation

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Introduction

Mr. Willemsen entered his office early in the morning to prepare the management meeting today. This main discussion point of this management meeting is about developing a new revenue model that can combine the strength of IQ-Pass in electronic access control system and related equipment with the large distribution network of its mother company Boels Rental. In addition, Mr. Willemsen needs to present his plan of expanding to new markets within EU that aims to achieve an average 10% turnover growth annually. He had become the managing director of IQ-Pass International in 2019. With a degree in commerce and economy, he started his international career first in the Caribbean region and Latin America, later moving back to Benelux and Europe. For almost 20 years he has been working in the field of marketing & sales, mainly in telecommunication and security industry, and has developed experience in the differences and specificities of local country markets around the world. He is fully aware that the needs of adapting whatever successful business models to local market conditions.

Meanwhile, he believes that intelligent technology can make organisations work better and more efficiently without the limitation of national borders, due to the homogeneous technological and quality standards. Technology should not burden but must unburden and support people by accelerating business processes. This means that human time, energy, and capacity should be spent on core activities. The peripheral matters that do not contribute to the core business of organisations should be taken care of by professionals that can provide reliable technological solutions. IQ-Pass is such a professional service provider who invent, create, and further implement technological solutions for its' clients.

IQ-Pass International was founded in 2008 in Breukelen, the Netherlands. In the first years, the company focused on temporary, physical access control and security in the event industry and construction sector. Steps were soon taken towards a broader approach to access process management, initiated by complex compliance issues at industrial clients. The portfolio of products offered by IQ-Pass includes services and equipment's needed from temporary security installations to an intelligent combination of hardware and information technology. It has become one of the market leaders in the field of access control management, particularly for the construction industry, maritime and offshore industry, and for large-scale events.

In these industries, compliance, scalability, flexibility, and efficiency are critical factors for ensuring their core activities can be conducted safely according to the national and European laws. Using a structured recording and presentation of data, IQ-Pass provides business intelligence solutions for business processes and services that traditional access control solutions do not offer, such as extensive hour reports and registration based on access data

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form employees and visitors, but also from contractors and subcontractors. This means that IQ-Pass is not only facilitating client activity but also directly adding value in terms of cost savings and management information for their clients.

IQ-Pass: a small business unit merged into a large organisation

The success of IQ-Pass led to its acquisition by another Dutch company, Boels Rental, in 2017. As a 'Total Solutions Partner' the innovative power of IQ-Pass can contribute to Boels Rental's expansion and positioning¹. As the general manager of Boels Rental said: "Due to increasingly strict laws and regulations, professional access process management is increasingly becoming a requirement for our customers. In IQ-Pass we have found the expert who shares our 'passion for solutions'. A specialist in the field of access control and crowd management, with optimal customer support".²

The acquisition also enables IQ-Pass to supply the IQ-Soft solutions throughout a large network of customers in Boels Rental's existing markets with their offices in the Netherlands (Breukelen), Belgium, and Germany (Ludwigsfelde and Hanau). Through the mother company Boels Rentals, IQ-Pass can access proper funding, new concepts and receive cooperation from other divisions. Next to IQ-Pass software products and services, the company also combines the strength of Boels Rental to provide hardware solutions like control gates, turn pikes and access control devices for permanent and temporary uses.

Since its establishment in 1977, Boels Rental has grown to be one of the most renowned rental companies in Europe with the rental of machines, tools, units and catering and event equipment. It has grown from the original 20 branches in 3 countries to more than 430 branches in 11 countries (e.g. the Netherlands, Germany, Belgium, the United Kingdom, Luxembourg, Austria, the Czech Republic, Poland, Italy, Slovakia and Switzerland). The enormous expansion of activities is based on autonomous growth as well as several strategic acquisitions and has resulted in a doubling of turnover every five years³. More than 4.000 employees are working for Boels Rental including IQ-Pass.

With only eighteen employees the culture of IQ-Pass can be described as very forward-thinking, open-minded and creative. The simple but effective organisational structure plus its

¹ <https://www.boels.nl/nieuws/2017/06/boels-rental-neemt-iqpass-over>

² <https://www.khl.com/international-rental-news/boels-acquires-access-control-specialist-iq-pass/127377.article#:~:text=IQ%2DPass%20was%20founded%20in,and%20other%20worker%20bading%20systems>

³ <https://www.boels.nl/en/about-boels>

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innovation power have been the strengths of IQ-Pass in the past. Its flat hierarchy (of only two management levels see Fig. 1) and the shared office of all employees boost intrinsic motivation and make it easy for everyone to interact and contribute. The marketing, HRM and SHEQ (Safety, Health, Environment and Quality) activities are carried out by managers from the mother company Boles Rental. Within this structure IQ-Pass can focus on technological innovation and project execution which has been the success factor of IQ-Pass before the acquisition.

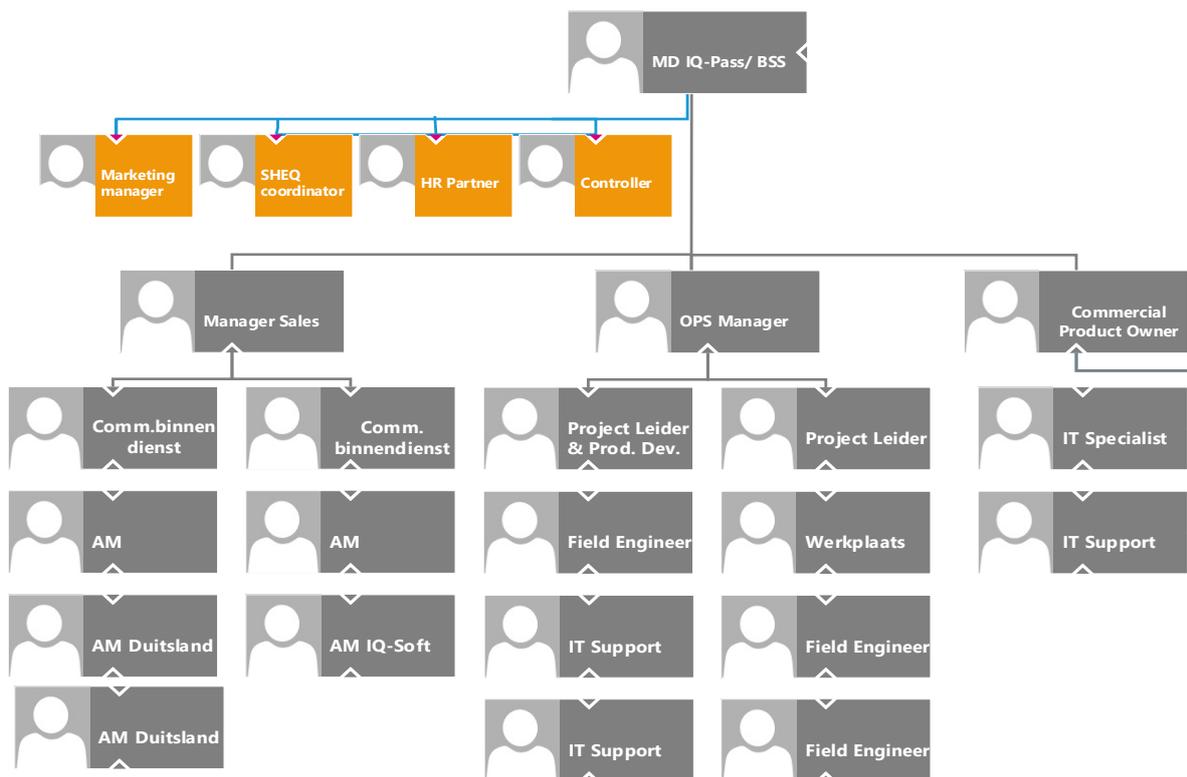


Fig. 1 IQ-Pass Organigram.

The acquisition enables IQ-Pass to accelerate working on its international ambitions and product development. With planned investments and the Boels Rental business network, IQ-Pass is ready for the next stage in its growth. After the acquisition IQ-Pass has experienced growth at a gradual pace. The annual turnover has grown from 3 million euro's in 2019 to an expected 3.5 million euro's in 2020 with a healthy profit growth. The expected turnover for 2021 is 4 million euros. To reach this new goal developing new markets and/or new is needed. Mr. Willemsen aims at making IQ-Pass one of the market leaders in high-quality and intelligent solutions in terms of safety and security. Mr. Willemsen has the ambition to take IQ-Pass further being ahead of its competitors and to maintain its leadership in the Dutch market. He also thinks entering new markets is necessary to grow the footprint, and extend sales and

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revenues internationally. The most convenient way to penetrate to new markets and attract new customers is to integrate more into the large organisational network of Boels Rental.

Compliances required by the Dutch national laws and EU regulations

The current regulatory systems, in tandem with evolving digitisation of the business models of many organisations, requires that compliance solutions in organisations transform significantly. Companies need to implement solutions in order to managing risks and related costs, especially by using a data-driven and risk-based approach to regulatory compliance. A few contemporary compliance examples are explained here.

With the introduction of single market in 1993 and single currency in 2002, a VAT control system was put in place for intra-Community trade. This system was developed to create a single European VAT area that is simpler and fraud-proof.⁴ It has impact on all EU member states' cooperation between tax administrations on tax collection. A computerised VAT Information Exchange System (V.I.E.S.) was set up to allow for the flow of the data held across the internal frontiers which:

- Enables companies to obtain rapidly confirmation of the VAT numbers of their trading partners
- Enables VAT administrations to monitor and control the flow of intra-Community trade to detect all kinds of irregularities⁵

“Under the new VAT system intra-Community supplies of goods are exempt from VAT in the Member State of despatch when they are made to a taxable person in another Member State who will account for the VAT on arrival. Therefore, any taxable person making such supplies must be able to check quickly and easily that their customers in another Member State are taxable persons and do hold a valid VAT identification number.”⁶

Another example is the General Data Protection Regulation (GDPR), effective from 25 May 2018 and applicable to all businesses and organisations, regulates the way businesses

⁴ https://ec.europa.eu/taxation_customs/node/1031_en

⁵ Idem.

⁶ https://ec.europa.eu/taxation_customs/business/vat/eu-vat-rules-topic/vies-vat-information-exchange-system-enquiries_en

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process and manage personal data. It does this by establishing a uniform framework for data protection legislation across the EU.⁷

According to the Commission's 2019 annual Report on intra-EU Labour Mobility, there were 17.6 million EU-28 'movers' in 2018, of which 12.9 million persons were of working age (20-64 years).⁸ Due to the labour mobility it is a common practice that companies (especially in construction sector, maritime and petrochemical industry, event organisation) hire workers through contractors and sub-contractors in different EU member states. If a company gives an assignment to another company and this company puts staff to work in order to perform the work, a chain will be created. All linked parties in the chain are jointly responsible for the wage of the employees in that chain. If they do not get paid, they can hold each link liable for payment of their wage. This is regulated by 'The Chain Liability Act' (in Dutch 'Wet ketenaansprakelijkheid', WKA).⁹ This chain liability for wage identifies which party is liable for the payment of payroll taxes of the (sub)contractors, makes main contractors fully liable for any income tax and social security contributions of invoiced wages that their sub-contractors fail to pay to the tax and social security authorities. The complete registration of companies and (sub)contractors in the chain must take place.

Another labour protection measure undertaken by the EU is 'Safety, Health and Environment Checklist Contractors' (VCA certificate, 'Veiligheids Checklist Aannemers' in Dutch or SCC in English). The purpose of this official checklist is to make sure everyone works in a safe manner. At present, most construction companies demand that their contractors, agencies and intermediaries have a VCA certificate to ensure that their employees work in safe and healthy conditions.

The intelligent access control and process management

The cluttered, complex and rapidly changing regulatory landscape makes it harder to be compliant. Most companies handle this by expanding their compliance function and/or a rule-based business implementation, which is a very costly exercise¹⁰. That is where IQ-Pass can help to improve the efficiency of existing compliance frameworks and business

⁷ <https://gdpr.eu/tag/gdpr/>

⁸ <https://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=9550&furtherNews=yes>

⁹ Chain Liability Factsheet, December 2015, Ministry of Social Affairs and Employment

¹⁰ https://www2.deloitte.com/nl/nl/pages/risk/solutions/regulatory-compliance.html?id=nl:2ps:3adw:4mar_risk_mbm:5awa:6risk-

[%2Bregulatory%20%2Bcompliance&gclid=CjwKCAiA4o79BRBvEiwAjteoYK1zJ4exl95QqT1OEGayXRxA3t5UY4JOZ-bve2S9GzDJrckOXJcpRRoCx9MQAvD_BwE](https://www2.deloitte.com/nl/nl/pages/risk/solutions/regulatory-compliance.html?id=nl:2ps:3adw:4mar_risk_mbm:5awa:6risk-%2Bregulatory%20%2Bcompliance&gclid=CjwKCAiA4o79BRBvEiwAjteoYK1zJ4exl95QqT1OEGayXRxA3t5UY4JOZ-bve2S9GzDJrckOXJcpRRoCx9MQAvD_BwE)

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implementation, while at the same time preventing the need for regulatory response. For companies that hire contractors and subcontractors from different EU member states, IQ-Pass offers excellent service with its own support desk, full support on software and hardware to register all information according to the required compliances. IQ-Pass software makes it easy to add (sub)contractors via the European Union's search engine (VIES) system. All workers are invited via IQ-Pass software to complete their personal profile and upload the necessary legal documents. Construction companies, maritime and offshore companies can then easily register people who come to work on the construction site or maintenance project. Once the registration of an individual is already in the IQ-Pass database, the worker only needs to enter customer / project specific data or follow a port instruction. All the personal information is handled in accordance with the GDPR.

This chain of liable contractors is recorded in IQ-Pass, so that the administration is fully compliant under the Chain Liability Act. On the construction site IQ-Pass provides all necessary equipment, such as laptops, card printers, ID scanners and all accessories. The IQ-Pass software is very user-friendly. After a short training, security guards and gatekeepers can use the system immediately.

For people registration on a construction site, IQ-Pass has a mobile registration and deregistration column with a fixed network connection or 4G connection. For companies that have their own access control hardware and / or software, IQ-Pass is extremely flexible in their integration to the customer's existing system and has proven its success in many large projects. Thanks to the handy traffic light model, it is easy and accurate to decide whether a person may be granted access to a site. IQ-Pass not only offers extensive insight into the presence of people per project / zone / site, but also into changes in work-related personal data. For example, the hour registration option reports the gross hours of a worker's or visitor's presence. Based on the hours of presence a signal can be given if someone has been on the construction site working for too long hours. In this way the labour protection law is enforced to protect the limit of working hours.

IQ-Pass works with independent but interconnected modules. It means that customers can choose a few modules for simple or temporary registration. The service package can be extended with more modules for extensive registration and more complicate compliance requirements. For instance, an automatic check and registration of VCA certificates from the central EU register, online ID check via the service of automated ID authentication and the registration of the Generic Gate Instruction (GPI) can be used. If desired, specific qualification requirements and tax authorities report can also be added.

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Which revenue model to use?

IQ-Soft (software offered by IQ-Pass) offers three solutions (Basic, Professional and Premium, see appendix 3) as packages to their clients. The Basic package contains the core functions with a few limitations and less additional tools. The professional package is the middle version which offers more tools and less limitations in comparison to the Basic package. The third option offers the Premium package where there are no limitations, and all tools are available. Pricing will be depending on the package chosen and the project itself, further information about the packages or even a quotation can be requested via the website of IQ-Pass.

The current revenue model is comparable with licensing which is based on one-time sales per customer. By implementing IQ-Pass software to a project, a client can use it throughout the project in exchange for a certain price. This kind of customer relationships relies heavily on trust and willingness of long-term collaboration since all parties must exchange (confidential) information. This revenue model has worked in the past years and created a stable base of loyal customers. But will it also work in other targeted sectors and countries as IQ-Pass intends to expand to?

The rise of e-commerce has revealed new revenue models. Mark-up is a traditional revenue model for wholesalers and retailers, and remains popular for many e-commerce platforms like Amazon, eBay, Alibaba, Flipkart. The platform earns a nominal commission for every completed sales transaction from businesses and people auctioning off new or used products, selling a product or service. The sellers in these online marketplaces increases its price before (re)selling it to customers (mark the price up x%) with a profit margin including the coverage of commissions fee. Since the 2010s one particular revenue model has skyrocketed in popularity; the subscription model. This revenue model generates revenue by charging customers a recurring fee, for example every month or every quarter of a year. This offers the possibility to maintain low subscription fees and gain many subscribers. This model is built on establishing long-term relationships with customers who will pay regularly for access to the needed products or services. Another interesting example is Apple iCloud that uses their already existing customer base and targeted them in their campaigns for new streaming and storage services. IQ-Pass has a strong existing customer base, and by providing different sorts of packages with different prices, it could develop new markets through the existing customer base and the wider network of Boels Rental.

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By seeing the similarities between these new revenue models and IQ-Pass licensing revenue model, Mr. Willemsen wondered whether there could be improvements in their revenue model based on such e-commerce examples and wondered what pricing strategy would work for the new targeted markets.

Three current key markets

Construction sector

IQ-Pass has a cost-effective and efficient solution for every construction project. For easy access control, the basic module is available in combination with turnstiles (control gates) or barriers (car gates). When this type of access control is not necessary or not possible, the robust mobile registration and deregistration offer great alternatives, are equipped with solar panels, battery and 4G connection, can be used completely self-sufficient.

One of IQ-Pass customer is TAQA Energy. One of their construction projects was the largest freely accessible gas storage in Europe, with a working volume of 4.1 billion cubic meters of natural gas. This concerns about 10 percent of the annual total gas consumption in the Netherlands and enough to provide for the annual consumption of 2.5 million households. The implementation of the project is in the hands of 8 main contractors who bear joint responsibility for the success of the project. The site itself employs between 600 and 700 mining companies and a total of around 9.000 people working on site. This sizeable and complex project was held back by political pressure. Underground storage of natural gas must secure a stable provision of sufficient natural gas in all seasons in the coming decades. 80% of the employees must come from the local region in the Netherlands. Another most important requirement is to prevent any illegal work by requiring up to date reports to the tax authorities and exact time registration and control at the VCA. IQ-Pass provides security for this project at two locations. A special registration and security check system was established in collaboration with the Tax and Customs Administration, SZW (the Dutch Ministry of Social affairs and Employment) and the State Supervision of Mines. Part of this software is monthly check by the tax authorities for ATW (working hours law), work permit, visa and BSN number (citizen service number for taxation and insurance, etc.). The full automation of IQ-Pass software minimises human error, avoids amerces and complies with laws and regulations. As the result, by using IQ-Pass system the government eventually approved the project implementation.

This principle of extensive automated checking and screening of employees to prevent liability for illegal work can be also applied in other labour-intensive sectors. Ahold Delhaize is one of the world's largest food retail groups, a leader in supermarkets and e-commerce. For the The ECASA project (2019-1-DE01-KA203-005037) is financed by Union funds (ERASMUS+). But the content of this document only reflects the views of the authors, and the European Commission cannot be held responsible for any use which may be made of the information contained therein.

compliance with the new laws and regulations and to prevent liability for illegal work, IQ-Pass provided the solution to check all employees remotely. The Check-in box, which can be used for every renovation, registers all those employees present at the location. Employees who do not have valid documents are immediately signalled and blocked by the system and reported to the project manager. The full automation from verification to RFID (Radio-frequency identification) card registration allows more efficient tracking of all data, more insight into the validity of documents, less administrative burden, eventually saves time and costs.

Large events

With a robust quality of products and service, and a holistic and comprehensive offering of all needed materials and equipment, IQ-Pass is the perfect partner for access control at large events. With a complete line of turnstiles, barriers and sliding gates, access to a site can be organised before, during and after the event. The whole process of transport, installation and commissioning is arranged by IQ-Pass. The obstacles faced can be overcome with access readers, remote controls, push buttons, intercom or GSM (global system for mobile communications). Also, a link with an (e) ticket system can be done smoothly.

A successful partner of IQ-Pass is Tomorrowland in Boom, Belgium. With nearly 200,000 visitors, it is one of the largest outdoor dance events in the world. In the past, visitors without an admission ticket have attempted to pose as employees to gain access to the site; good security and control is therefore crucial. IQ-Pass supplies and installs six turnstiles that will be installed near the four public entrances. Next to the visitor flows control IQ-Pass supplied the turnstiles for the special employee access points at the festival. All crew members are equipped with a wristband with barcode that can be read by special readers on the turnstiles. The barcode scanners on the turnstiles communicate directly with the Tomorrowland organization's own software for the attendance registration and access rights control of the employees.

Another important customer is the German Football Association. IQ-Pass is contracted to set up a crowd management solution at Borussia Dortmund. The stadium of Borussia Dortmund can accommodate more than 81,000 visitors, making it the largest football stadium in Germany and one of the largest in Europe. IQ-Pass set up an access control line, consisting of twenty IQ-Pass Control Gate XS turnstiles. This series of turnstiles formed the first line of access for the more than 30,000 supporters of Borussia Dortmund. Each turnstile was operated by two stewards, who searched the fans one by one at the push of a button and performed a visual check for the authenticity of tickets. A little further on, at the regular entrance counters of the

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stadium, the tickets were again barcode scanners checked. This "two-stage control" is a proven method used by IQ-Pass. The IQ-Pass turnstiles create a controlled flow with sufficient throughput to lead supporters to the stands in a reasonable amount of time. A lock operation is created in conjunction with the regular access counters: a buffer zone in which irregularities can be solved in a controlled manner. Football clubs, or as in this case the German Football Association, do not need this solution continuously. They needed IQ-Pass when their own existing access infrastructure needs to be temporarily scaled up in this way. Within a timeframe of 36 hours, IQ-Pass can take care of the complete assembly and disassembly, including any connections with existing systems and instructions from operating staff.

The event business sector has been strongly affected by the disruptive effects of COVID-19. Since the onset of the epidemic, hundreds of events have been cancelled all over the world. This revenue stream of IQ-Pass is dried up at present.

Maritime and offshore industry

IQ-Pass distinguishes itself by fully automating the access process management for clients. More importantly, customers can integrate the IQ-Pass software into their existing security system permanently or apply it during a temporary shutdown or construction project. On a large construction site or offshore platform IQ-Pass provides an effective and fully tailored registration of all people on a site, which is critical for ensuring safe and healthy working conditions. AllSeas is one of the world leaders in the offshore industry, specialising in the execution of large and complex projects for oil and gas transport. AllSeas needed a perfect registration system to meet the requirements of European laws and the ISPS (the International Code for the Security of Ships and of Port Facilities): always knowing who is on the ship at what time. The implementation of IQ-Pass hardware and software makes it possible to meet all the requirements and have 80% timesaving in registration.

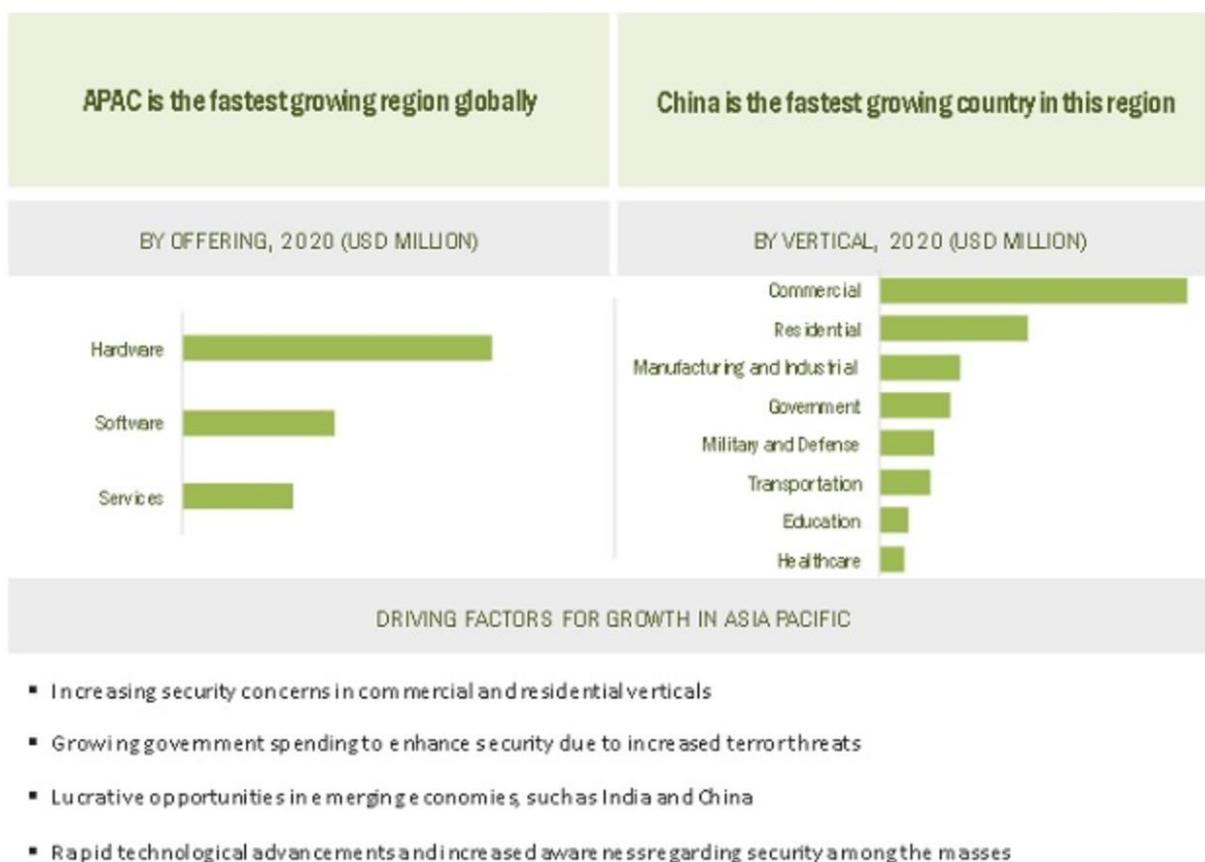
Global electronic access control market

According to Market Research Future, the global access control market is poised to create a valuation of USD 12.53 billion by 2023, growing at 9% CAGR (Compound annual growth rate) during the review period (2018-2023).¹¹ The major factors contributing towards the market growth include high adoption of access control solutions, higher technological advancements

¹¹ <https://www.wfmj.com/story/42534911/access-control-market-2020-swot-analysis-and-competitive-landscape-by-2023-worldwide-overview-by-global-leaders-drivers-restraints-emerging>

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and deployment of wireless technology in security systems, and wider adoption of IoT based security systems with cloud computing platforms.¹² Due to the growing security concerns, there is a higher adoption of access control solutions witnessed by major enterprises and residents across the globe. The increase in crime rate, illegal perimeter intrusion, and cyber-attacks have given rise to securing necessary equipment, essentials in homes, and even individual safety. The adoption of access control as a service and mobile-based access control are expected to provide a significant opportunity for the market growth.¹³



Source: https://www.marketsandmarkets.com/Market-Reports/access-control-market-164562182.html?gclid=CjwKCAiA4o79BRBvEiwAjteoYG90LJKIzPP-mp75FpbZeDtI08Y0-L7iD0n6xOdotVFVBIBtoFG6mBoCRgwQAvD_BwE.

The access control solution has witnessed a huge adoption over the past decade in various industries, enterprises, and residential properties across North America, Europe and the rest of the world. However, Asia-Pacific is expected to grow with the highest CAGR during the forecast period. The growth of Asia-Pacific region is due to wider acceptance of foreign

¹² <https://www.marketresearchfuture.com/reports/access-control-market-1089>

¹³ Idem.

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companies setting up their manufacturing plants. With this, various regional as well as local IT enterprises, and start-ups have been established which is expected to create a need for more security of their assets. In countries like China, Japan, and India, there is a revolution in the residential properties. The properties are now equipped with advanced biometric-enabled access control which reduces the risk of burglary and theft. The major factor behind growth in residential access control is urbanisation¹⁴.

On the other hand, countries like the US, Canada, Germany, and the UK already have established markets. These countries along with a few other countries in Europe were early adopters of access control solution in office and residential premises¹⁵. The significant growing demand for the electronic access control system comes from commercial buildings. Attributed to increasing need for securing public spaces and infrastructure projects initiated by government organisations fuel the growth as well.¹⁶

Organisations are capitalising upon existing surveillance infrastructures, access control, and time & attendance applications. Rising deployments of wireless technology in security systems accelerate this market growth.¹⁷ The broader adoption of IoT based security systems with cloud computing platforms substantiates the growth of the market. More new entrants to the market can be expected in the upcoming years. The new entrants in this already competitive market may disturb the marketplace, the existing customers may switch to alternatives based on better price performance offerings. The access control technology market is therefore highly competitive.

The major players in the access control market are identified by competitive benchmarking based on product portfolio, industry experience, geographical coverage, recent developments, and business strategy¹⁸. The largest players are ASSA ABLOY AB (Sweden), Gemalto N.V. (Netherlands), Allegion PLC (Ireland), NEC Corporation (Japan), Tyco International PLC (Ireland), Honeywell Security Group (US), Bosch Security Systems Inc. (Germany), Gunnebo AB (Sweden), Crossmatch Technologies Inc. (US), and NAPCO Security Technologies Inc. (US). These players comprise nearly 65-70% of the total access control market.¹⁹ Concerning the strong need of security and privacy by various enterprises and residential users, the other players contributing in the market are Dorma+Kaba Holding AG (Switzerland), Identiv, Inc. (US), Nedap N.V. (Netherlands), Suprema HQ Inc. (South Korea), Ot-Morpho (France), Amag

¹⁴ Idem.

¹⁵ <https://www.mordorintelligence.com/industry-reports/global-access-control-market-industry>

¹⁶ <https://www.factmr.com/report/287/electronic-access-control-system-market>

¹⁷ <https://www.maximizemarketresearch.com/market-report/global-access-control-market/27435/>

¹⁸ <https://www.marketresearchfuture.com/reports/access-control-market-1089>

¹⁹ idem.

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Technology, Inc. (US), Forescout Technologies, Inc. (US), Lenel Systems International, Inc. (US), Brivo, Inc (US), Vanderbilt Industries (Ireland), Adman Technologies Pvt. Ltd. (India), Axis Communications AB (Sweden), Access Control Innovation (Hong Kong), Time and Data Systems International Limited (UK)²⁰.

Where to expand and how to scale up?

The basic principle of IQ-Pass services is to register exactly “who is where and when at the location”. This principle can be applied to more sectors, especially those that are under the strict regulations required by national, EU and international laws. For example, in the huge petrochemical industry and infrastructure construction projects in Germany and the neighbouring countries like Austria, everything revolves around the optimal processing of petroleum, from raw material to semi-finished product, from semi-finished product to final product, and recycling useful materials to reduce wastes. In all these process safety and security are extremely important.²¹ The petrochemical industry is constantly growing and discovering new ways to produce and use chemicals to benefit the industry and the world. The industry has ridden high on emerging-market demand growth since the start of the century.²²

The European petrochemical industry has an outstanding record of cutting its Greenhouse gas (GHG) emissions. They have decoupled its GHG emissions from production growth. From 1990 to 2016, they reduced their GHG emissions by 60.5%, while they increased their productivity by 85%.²³ Looking at the current status of the petrochemical industry in Germany shows that²⁴:

28% of total chemical industry revenue in Europe generated by German companies

EUR 4.2 bn innovation spending by German chemical companies

Petrochemicals are currently the biggest of the industrial chemicals sectors, accounting for around 40% of the global chemicals market of around \$2.65 trillion.²⁵ Despite established

²⁰ idem.

²¹ <https://www.mct.nl/branches/4/industrie/40/petrochemie#:~:text=In%20de%20petrochemie%20draait%20alles,en%20van%20halfabrikat%20tot%20eindproduct.&text=In%20de%20petrochemische%20industrie%20is%20veiligheid%20van%20zeer%20groot%20belang.>

²² <https://www.gpca.org.ae/2020/06/24/covid-19s-impact-on-the-petrochemical-industry/>

²³ https://ec.europa.eu/energy/sites/ener/files/documents/iea-the_future_of_petrochemicals.pdf

²⁴ <https://www.gtai.de/resource/blob/64542/121894962e5bfeb883a79d3ec6ae44d7/industry-overview-chemical-industry-in-germany-en-data.pdf>

²⁵ https://ec.europa.eu/energy/sites/ener/files/documents/iea-the_future_of_petrochemicals.pdf

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business contacts and several successful projects, IQ-Pass is still a miniscule player in this large unknown market. IQ-Pass believes that Germany has a lot of potential and opportunities. Boels Rental has two offices in Germany. In Berlin is the head office for Germany located and in Frankfurt is the operational office for German market. What should be the right expansion model and how to develop partnership in this high potential market?

IQ-Pass has many returning customers from their repeating projects every year. However, a progressive marketing strategy is needed for finding new customers and enlarging the existing market segment, especially the digital marketing channels should be paid more attention. In the B2B market customers have access to information on all types of products, have become more sophisticated in making purchasing decisions because it is easy to make comparisons in all aspects of products and prices, as well as finding substitute products. Also, the availability of information can have the effect of creating a abundance of information, and potential clients miss crucial information, or in the worst case be misled by the information provided online. Therefore, more focus should be placed on providing reliable, valuable, and on-time information to each client, and developing direct conversation channels with the client. The goal is to improve customer relationship management and brand loyalty. Recently IQ-Pass started using social media platforms such as LinkedIn to provide their solution to a broader range of customers. More social media landing pages should be created that can directly lead to the website of IQ-Pass. Additionally, IQ-Pass has started to reach new customers by sending information package through the mother company, Boels Rentals.

Increase the top-of-mind awareness (TOMA)

Since its establishment IQ-Pass technological advancements and excellent service have gained customer loyalty among its clients. Until now the marketing function has not been a separate function within IQ-Pass; marketing activities were integrated with other functions such as account management and project leadership. For the existing customers IQ-Pass has become a brand noted for specific products and high quality, and top-of-mind for consumers when thinking of access control and security checking. Having the ambition of expanding to new markets and scale up to big customers, Mr. Willemsen wants to increase the TOMA among new customers and needs a new marketing strategy to carefully enter new target markets in collaboration with the network of Boels Rental. He believes “even if we don’t have the software or hardware solution available, we reach out in our network to find the perfect solution for the customer”.

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The company currently relies on many returning customers and their repeating projects every year. IQ-Pass focuses on both software and hardware. For the software part, there are suppliers of IT platforms, IT infrastructure and database. The relationship between the suppliers and IQ-Pass is well maintained, has the top limited risk of a breakup. IQ-Pass specialises in the high-end products and services, constant innovation and development of the technology should make IQ-Pass resilient for substitute products and services, also the coverage of different technologies and markets reduce the potential risk of being competed out. For the hardware part, the mother company Boels Rental provide a stable base and a large distribution network across Europe. IQ-Pass has been able to distinguish from other competitors by providing modular products and services to various sectors. Moreover, with the support of Boels Rental IQ-Pass is one of the few market players that offers a combination of hardware and software to its customers. IQ-Pass will remain in control of this combination to provide reliable full services to its clients. Additionally, the IQ-Pass is very flexible and able to move fast forward, which is essential for reacting rapidly to changes in the market. Finally, IQ-Pass offers very fast delivery, this can play a major role for potential customers to switch to IQ-Pass.

In fact, the three key markets in which IQ-Pass has been successful also exist in many other European countries. The current IQ-Software are mostly available in 12 languages. Obtaining insights of the new markets, optimising its branding and differentiation strategy are essential for IQ-Pass to gain the top-of-mind position among new customers.

Conclusion

Mr. Willemsen has been working on his market expansion plan, despite the disruptive impact of the COVID-19 pandemic in the markets of IQ-Pass, and this disruption cannot be underestimated. The revenue from the event industry disappeared almost immediately due to the lockdowns in 2020. However, Mr. Willemsen remains positive about the potential of other revenue streams, especially as he sees new business opportunities. The electronic access control market is continuously expanding to serve the increasingly complicated needs of industrial customers. IQ-Pass is currently active in the Benelux and Germany. From turnstiles to barriers, from facial recognition systems to automated access control systems, and from attendance registration to complete compliance: IQ-Pass covers the entire field of access technology. Through the large network of mother company Boels Rental IQ-Pass intends to allocate new markets, expand customer base and improve revenue model.

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Thus, a new progressive marketing strategy is needed to enter new markets that provide specific growth opportunities such as petrochemical industry and large infrastructure projects. To identify the most suitable marketing strategy IQ-Pass must analyse the market potential and risks for IQ-Pass Temporary Access Control solutions in various European countries where Boels Rental has strong presence. With the support of marketers provided by the mother company, Mr. Willemsen aims to achieve the international expansion through their core competence in technological development and innovation. Especially because in this industry customer relationship is developed based on high quality, reliability, and the speed of delivery. When the products and service satisfy or even exceed customer's expectation, they will spread the good news and become the ambassadors of IQ-Pass.

Mr. Willemsen must remain focused, meanwhile start the expansion based on accurate understanding about the market expectations and development trends. He has made up his mind for the international expansion, but how to convince the mother company Boels Rental to invest more in marketing at the European level? Which European country and sector has the highest potential for IQ-Pass? What changes should be made in the current revenue model in order to attract new customers?

Suggested questions for in-class discussion and exercise

1. Which European countries where Boels Rental has branches have the best entry conditions for IQ-Pass in terms of market (segment) size, easiness of doing business, growth potential?
2. How can IQ-Pass differentiate from its competitors in the new markets of temporary access control in Germany/Austria/Ireland/Lithuania?
3. What are the new possibilities for IQ-Pass to implement the IoT technology (e.g. such as: blockchain technology, artificial intelligence, robotics, Drones, 3D printing) into their current provision of hardware and software? How to seize these new opportunities?
4. How to increase the scope and scale of the three key markets of IQ-Pass into other European countries? What are the cultural, administrative, geographic and economic aspects that IQ-Pass needs to take into consideration to develop a successful enter strategy?
5. What are the current developments of the petrochemical industry in Germany?
6. Which entry strategy and foreign operation mode is suitable for IQ-Pass in order to expand to the petrochemical industry in e.g. Germany (or another European country)? How to

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form more large-scale partnerships in responding to the needs of petrochemical industry, combining existing partnership in Germany (or another European country)?

7. Where is the best possible location for the IQ-Pass logistical hub in order to serve the German and surrounding markets? How to develop this logistic hub by integrating with Boels Rental existing operational network?

8. What can be the improvement on IQ-Pass revenue model that is modular based? What can be learned from other software companies that effectively expand into the mass market with a recurring revenue flow?

Appendix

Appendix 1: IQ-Pass product portfolio

IQ-Pass has the following tangible technologies at their disposal:

Speed gates: Speed gates are mobile entrance fences. They have hardware like traffic lights, license plate recognition, remote control and can be controlled through your phone.



Muster points: These poles can register people when they enter a vicinity. When people enter or leave the terrain, they can use a muster point to check in or out. In case of a calamity, it can also print out a list with all the people present in the vicinity.

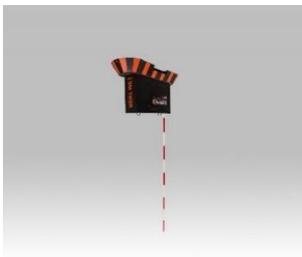


Crowd Gates: Crowd gates are mobile entrances for events with big crowds. It can be connected to a E-ticket system. The crowd gates are equipped with multiple card readers, 6 tourniquets and can be accessed by UMTS, Wifi and the internet. The gates keep track of the visitors, both incoming and outgoing, giving live information to the organisers about the current situation.

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Car gates: Car gates are mobile and are equipped with license plate recognition, remote control, coin machines, GSM-intercoms and card readers.



Registration columns: Registration columns are a bit similar to muster points. However, these devices are more specialised for the corporate world. Besides keeping track of attendance, they do also keep track of working hours.



A variety of **security cameras** including short range 360 cameras, which can be upgraded to being wireless

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The intangible software technologies are mostly acquired through partnerships. IQ-Pass has the following intangible technologies at their disposal:

- Paxton-NET2, which is an intercom system that can be integrated in the IQ-Pass gateways. Besides that, it can track attendance and make an attendance report out of this for the client. This technology is manufactured by Paxton.
- IQ-Pass has a strong partner that specialises in ID control and preventing ID-fraud.
- Datachecker provides smart online identification- and verification options.
- 3Shades develops custom software for events. The software is integrated in the ticket scanners and can be installed on the tourniquets.

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Appendix 2: More show cases of customers can be found via IQ-Pass website²⁶

IQ-Pass supplies access control solutions to hundreds of clients in Europe. Herebelow you will see a small selection of customers with sounding names. But no matter how large or "small" an organisation is: every customer can count on the same high service level at IQ-Pass.

Customer	Successful story
Marine contractors	<p>The Heerema Group is a major player in the maritime oil and gas industry. The core competence of Heerema Marine Contractors is the transportation, installation and removal of offshore facilities. This includes permanent and temporary structures, submarine pipelines, infrastructures in shallow, deep and very deep waters. It goes without saying that the maintenance of the Heerema Group ships involves many complex tasks.</p> <p>De Balder, one of Heerema's crane ships is located in Rotterdam for maintenance. During this maintenance there is another ship in the harbour, the "Hotel Ship", where maintenance staff of different nationalities stay on board. This results in different zones on which access control must be performed. The entire access control process was set up during the 3-month maintenance. After a careful estimate, the required number of persons and associated resources, such as the type of turnstiles, fencing and any barriers, was determined. In collaboration with the parties Heerema and Seris Security, the software behind the access control has been further developed into a customized solution. This gives Heerema a strong foundation in which conformity with laws and regulations is guaranteed. Further implementation of the software ensured maximum unanimity with internal regulations.</p> <p>Contractors can register their workers via IQ-Soft before they report to the port gate. All data, including passport data, any work permits and certificates, must be entered in advance. If the teams report to the gatekeeper, an access pass will be issued after an ID-Scan on which all rights have been pre-programmed. For both ships, there is complete insight into who is where and where with a daily occupation of between 500 and 600 people on board. In the event of an emergency, a real-time report shows which persons are still in which areas.</p>
AkzoNobel	Major cost savings through efficient use of access data

²⁶ <https://www.iq-pass.com/category/cases/>

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	<p>AkzoNobel is an internationally leading paint and coatings company and a major producer of specialty chemicals. In 2014 a AkzoNobel carried out a major maintenance of a large turnaround in Botlek Business Park, where on a regular day the number of visitors to the site is around 400. This number increased to 2500 during the maintenance period. AkzoNobel's current permanent access control system could not meet the capacity requirements. After a thorough analysis IQ-Pass made a very practical solution consisting of six barriers and five turnstiles, plus three double reader columns to control the current sliding gate. This access control was chosen to ensure that this influx of people is properly and safely managed.</p> <p>According to AkzoNobel IQ-Pass is the only party that offers a no-nonsense total package. A lot of costs are saved by making efficient use of the generated data in access control. Linking the hours of data with the payroll administration saves manual tapping of that data. Checking timesheets with declared hours makes it impossible to declare more than the actually worked hours. Fast and efficient access control process and real-time information are available for any labour inspections. It prevents sky-high fines issued by labour inspection.</p>
Nuon	<p>Nuon serves approximately 2.1 million consumers, companies and organizations in the Netherlands with electricity and gas. It is one of the top three Dutch energy companies with a net turnover of 3.7 billion euros in 2013. In connection with an overhaul, Nuon was faced with the challenge of organizing access control for more than 2,000 people across different location zones. This access control was realized by installing a control gate and implementing IQ-Soft Professional. This covered the entire access control process: from online registration and granting access to being able to determine exactly who is where and when at the location.</p> <p>The subcontractors register their employees online in advance via the IQ-Soft pre-registration site. Access to the site is only possible once all required data and documents have been completed, uploaded, and approved. As a result, laws and regulations are complied with and the workload of the administrative processes lies more with the subcontractors and less with the client. Registering in advance is proven to have saved a lot of time and costs.</p>
IHC	Customised access process management for full security management

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	<p>Royal IHC is the global market leader for efficient dredging and mining vessels and equipment. With its extensive experience, it is a reliable supplier of innovative ships and materials for the offshore construction. Royal IHC is confronted with increasing stricter regulations on the one hand and inventive creativity by imposters on the other hand. This makes access and security management progressively important.</p> <p>By taking all aspects required by the laws and regulations into account, IQ-Soft made the processes transparent and measurable and controllable via cockpits. A large amount data are recorded and verified online in the IQ-Soft platform, including port information, safety images, certificates and standards for certain executive activities, real-time emergency lists per location, zoning with different access requirements and rights, anonymized track & trace, muster points that are also controlled outside the site.</p> <ul style="list-style-type: none"> • the digital provision of verified personal data before a person's first access to the site • the online registration process that tests the contractors against recording the entered data • establish identity with the original proof of identity. For foreign workers, the Dutch citizen service number is tested and any E101 / A1 statements, residence, and employment permits • issuing access badges after all the above checks • access badges with anti-pass back and predetermined period based on work and residence permits • monitoring the quality of the data (through various checks on probability, completeness, and correctness) and recording the findings and any adjustments to the process <p>Based on the OPB Principle (Entrepreneur Process Management), Royal IHC obtains more insight into safety with the IQ-Soft system and can manage processes down to details. This creates efficiency, resulting in cost-efficient, user-friendly, practical and a forward-looking solution for improving Royal IHC's Security Management</p>
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Appendix 3: the current IQ-Soft solution and revenue model

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Basic	Professional	Premium
<ul style="list-style-type: none"> ✗ Key Users (unlimited) ✓ Visitors (unlimited) ✓ Persons (unlimited) ✗ Person qualifications ✓ CDR check ✓ Time tracking ✓ Permissions groups (limited) ✓ Access levels (limited) ✓ Organisations (limited) ✗ Organisations Qualifications (org doc + approval) ✗ RFI Questionnaire (2) ✗ RFI PRE qualification (2) 	<ul style="list-style-type: none"> ✓ Key Users (unlimited) ✓ Visitors (unlimited) ✓ Persons (unlimited) ✓ Person qualifications ✓ CDR check ✓ Time tracking ✓ Permissions groups (unlimited) ✓ Access levels (unlimited) ✓ Organisations (unlimited) ✓ Organisations Qualifications (org doc + approval) ✗ RFI Questionnaire (2) ✗ RFI PRE qualification (2) 	<ul style="list-style-type: none"> ✓ Key Users (unlimited) ✓ Visitors (unlimited) ✓ Persons (unlimited) ✓ Person qualifications ✓ CDR check ✓ Time tracking ✓ Permissions groups (unlimited) ✓ Access levels (unlimited) ✓ Organisations (unlimited) ✓ Organisations Qualifications (org doc + approval) ✓ RFI Questionnaire (2) ✓ RFI PRE qualification (2)
<ul style="list-style-type: none"> ✗ ATW ✗ Site Safety Exam (NL+EN inc.) ✗ TWV & A1 • ID Check ✗ Project ✗ Custom Email templates ✗ Work types ✗ Report generator ✗ Custom FAQ ✗ RFI Scoring per additional form ✗ RFI Questionnaire per additional form ✗ API (per endpoint) • BIS/Limoso+ CIAW ✗ Pre-registration page ✗ Support (SLA) - 24/7 • Support (SLA) - 12/5 ✗ Custom pas template 	<ul style="list-style-type: none"> • ATW • Site Safety Exam (NL+EN inc.) • TWV & A1 • ID Check • Project • Custom Email templates • Work types • Report generator • Custom FAQ ✗ RFI Scoring per additional form ✗ RFI Questionnaire per additional form • API (per endpoint) • BIS/Limoso+ CIAW • Pre-registration page • Support (SLA) - 24/7 • Support (SLA) - 12/5 • Custom pas template 	<ul style="list-style-type: none"> • ATW • Site Safety Exam (NL+EN inc.) • TWV & A1 • ID Check • Project • Custom Email templates • Work types • Report generator • Custom FAQ • RFI Scoring per additional form • RFI Questionnaire per additional form • API (per endpoint) • BIS/Limoso+ CIAW • Pre-registration page • Support (SLA) - 24/7 • Support (SLA) - 12/5 • Custom pas template

Fig. 2 IQ-Soft packages.

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Teaching Note

Discipline background and target groups

Discipline background of the case study: Please define/select the most relevant category

- Strategic management
- Operational management
- Marketing & sales management
- Human resource management
- Supply chain management
- Finance & accounting
- Economics
- Project management
- Other (_____)

General target groups: Please select all applicable addresses

- UG students
- PG students
- Executive Education
- Other (_____)

Synopsis according to the integrated case method process

This case is a background case about how IQ-Pass is looking for new market opportunities to expand their business in several focused European markets. The case researcher/writer has conducted research by collecting qualitative (interview managing director and marketing manager) and quantitative data from IQ-Pass and the customers selected by IQ-Pass. This case is also an exercise case for students to practice their knowledge from strategic management, marketing & sales, operational management, project management in conducting a market research and come up with a feasible marketing entry strategy and marketing plan.

The core subjects of the case study include marketing and communication, strategic management, operational management. This case can be divided into sub-cases that will focus on answering the question of how to enter or expand in a target European market (e.g. Germany, France, Austria). Students can also learn and practice project management skills when conduct case study in these specific countries.

Type

This case is a background case and exercise case.

Format

This case is a written case that can be supported by infographic, video, photographs.

Teaching objectives, target groups and target courses

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Objectives

This case is designed to train undergraduate students

- in understanding the European business environment by illustrating some unique market conditions in different target countries, e.g. compliances to laws and regulations;
- in researching contemporary European business development, e.g. in the transition of combining digitalisation (apps, software and platform development) and traditional industrial equipment and facility management; post-merge integration.
- in learning and practising knowledge from key subject areas in identifying market opportunities, developing market entry strategies and a feasible marketing plan for each targeted market.

Target group

The case is written for undergraduate students in year 2 and 3.

Target courses

The case is intended for international business and management related courses, can also be used for courses e.g. European business studies, project management.

Teaching approach/area and strategy/organisation

Approach/area

The case is intended to teach students knowledge and develop their competences in some of the key function areas of business and management, and especially concentrates on the following topics:

Strategic management, marketing & Sales, operational management, project management.

Strategy/organization/timing

This case can be provided to student (e.g. one week) before the class discussion. IQ-Pass website contains information about its history, customer's reviews, project descriptions, product portfolio. This information is available in Dutch and English. Students are required to study this information together with the case text.

If there are more teachers involved in teaching this case in the same period, they are encouraged to study this case together and discuss the possible questions and answers from various perspectives according to the relevant subject areas. The joint preparation among teachers can take 2-3 hours. The goal is to ensure the integrated approach to the case when leading discussion with students.

For in-class discussion: 3 hours session in-class

- 1 hours discussion about the case: clarifying issues, identify key issues
- 1 hours working session for students: case analysis, possible solutions
- 1 hours short presentation of students ideas: cross check the solutions, compare and contrast, lead to the selection of the best possible solutions.

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For exercise:

Students can work individually or in a small team (3-4 students) to study the case by themselves, and then hand in a report describing their findings and proposed solutions. Time required for individual-based case study and report writing is estimated about 10-12 hours.

Teachers may choose to use the presentation or idea-pitch workshop for giving feedback to the class based on the reports.

1. **Case briefing:**

Students should prepare the case study before the class. Depends on which level of students (year2, 3 or 4) and the requirements of learning objectives (in-depth reading or scanning) the time needed for reading this case can be 1 to 3 hours. Students should also study the company website in advance. If students already formed a team, it is important to discuss the questions and possible answers together before coming to class.

2. **Case coaching:**

We suggest to having at least two teachers to coach students in this case study, one from marketing subject area, one from HRM/HRD perspective.

For the teaching purpose, two coaching sessions are suggested. In the first one session students will have interactive discussion with teachers about their questions, findings, possible options. This session is meant for generating ideas, identify key issues and most feasible options. The second session will be used for group presentation of final solutions.

For the exercise purpose, students need to study the case independently without the standby support of teachers. After handing in reports (either individual or group), one coaching session is suggested to give students feedback and stimulating the interactive learning between students.

3. **Case work:**

See suggestions above.

4. **Upload of analysis results:**

The case final findings and results must be uploaded in ECASA Platform following the format of uploading document name

Format document title: ECASA Ba-casereport-XXXX(case company)-YYY(university's name)-ZZZ(class, group number, or student name)

On the front page of the uploaded reports the same information needs to be stated too.

5. **Case presentation:**

Case presentation can take the form of case competition or in-class presentation. The presentations should be uploaded on the ECASA Platform following the format of:

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ECASA Ba-casepresentation-XXXX(case company)-YYY(university's name)-ZZZ(class, group number, or student name)

One the first slide the same information needs to be stated too.

Evaluation/Grading

Evaluation criteria

Evaluation shall take place based on the following criteria [Define general evaluation criteria (e.g. creativity, rigour, analytical level, presentation technique, communication skills, solution orientation, practicability, etc.) that are needed to be taken into consideration in the evaluation. In addition, an indication of the weighting with which the individual criteria should be included in the evaluation.]:

Evaluation criteria	Weight
---------------------	--------

[An example:

Analytical level	High (10)
Creativity	High (10)
Communication skills	Moderate (5)
...	...

]

Assessment structure

Grading shall take place according to the following assessment structure: [A typical structure may be the following:

Maximum number of points achievable, thereof for 100

- Case research: max. ?? points v
- Case presentation: max. ?? points w
- Class participation: max. ?? points y
-

Final grading: $w + x + y + \dots = Z$]

Achievement level and grades

Percentage Score	Grade	Grade Definition
------------------	-------	------------------

[a typical scheme may be the following:

97%-100%	A ⁺	Excellent
93%-96%	A	Outstanding
90%-92%	A ⁻	Outstanding ⁻
...
< X%	F	Fail

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Recommendations

Make it clear on which achievement level the following grade definitions were reached:

- Excellent to outstanding [e.g. for A⁺, A, A⁻]
- Good to very good [e.g. for B⁺, B, B⁻]
- Satisfying [e.g. for C⁺, C, C⁻]
- Sufficient [e.g. for D⁺, D, D⁻]
- Unsatisfactory (fail) [e.g. for F]

Differences in the level of education and experience, e.g. of bachelor students and postgraduates, should be taken into account both in the weighting of the evaluation criteria and in the requirements.

Solution outline

Recommendations

At this point, a solution sketch should be provided.

Address the following questions in particular:

- What are the essential learning outcomes that the participants should achieve?
- How strongly should the discussion, results and approach be structured? What degree of openness and unbiasedness should be pursued?
- What would an ideal sample solution look like?