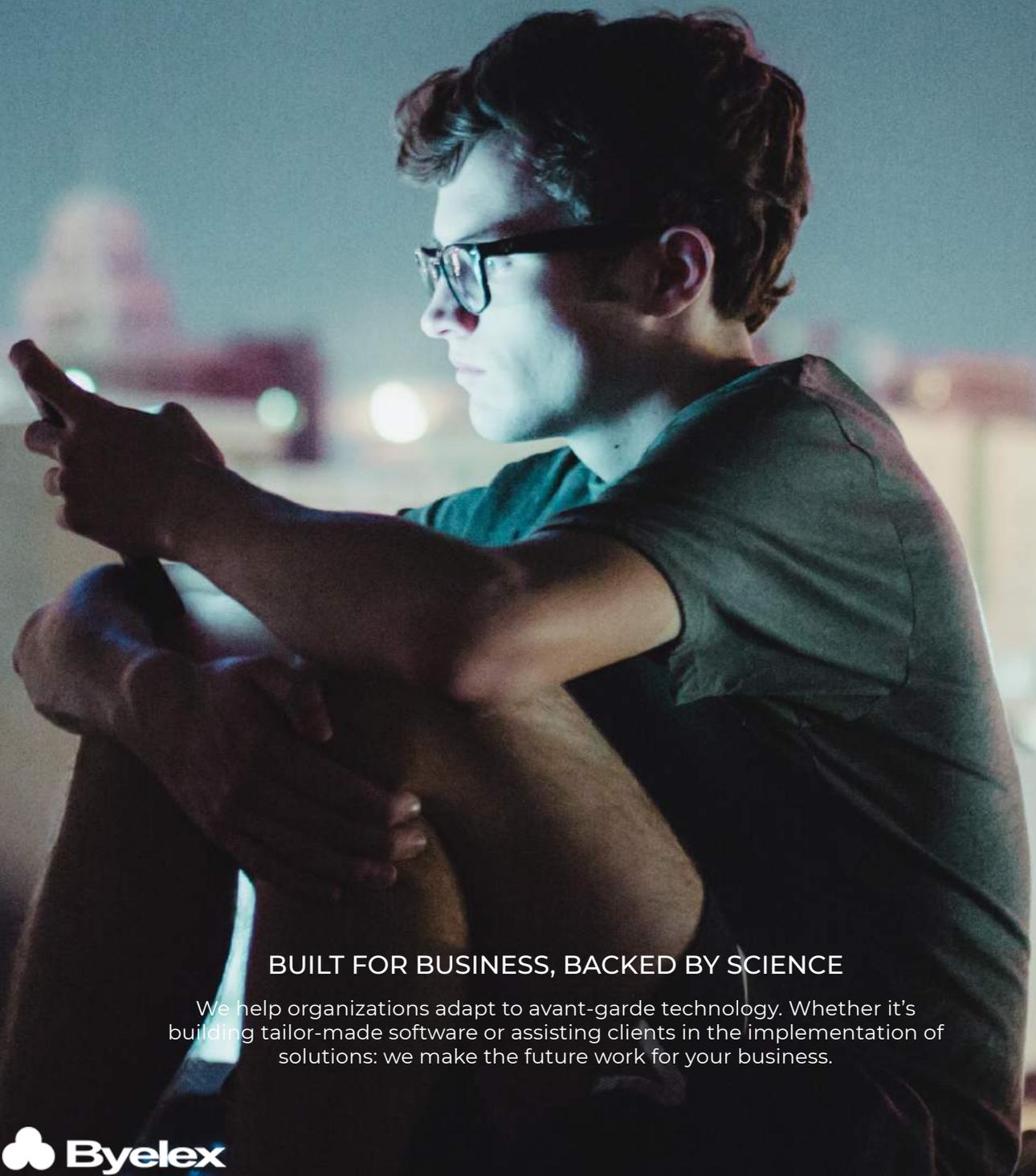


THE BYELEX INVESTMENT MEMORANDUM WHITEPAPER

# Byelex BV

THE NEXT INNOVATION COMPANY



**BUILT FOR BUSINESS, BACKED BY SCIENCE**

We help organizations adapt to avant-garde technology. Whether it's building tailor-made software or assisting clients in the implementation of solutions: we make the future work for your business.



MARCH 1, 2018 © BYELEX

**Attention!**  
No AFM supervision.  
No license required. No prospectus required.



# CONFIDENTIALITY

ByeleX BV has compiled this document for the purpose of evaluating a possible financing, strategic partnership or other transaction involving ByeleX BV, hereinafter called ByeleX. Acceptance of delivery of this document by a recipient constitutes acceptance of the terms and conditions set out in this disclaimer.

The sole purpose of this document is to inform the recipient about the ideas ByeleX has regarding an ICO (Initial Coin Offering) and directions that could be taken to attract investments via the crypto market.

This document has not been registered or approved in any jurisdiction. However, much effort has been taken to make sure that the information, valuation and forecasts are accurate.

Under no circumstances should the recipient of this document contact shareholders, employees, customers, and suppliers of ByeleX without prior written consent from ByeleX. Any communication or inquiry concerning this document, or any need for further information concerning this document or the process should be referred exclusively to:

**ByeleX Multimedia Products bv**  
**Attn. Mr. Herman Vissia**  
[herman.vissia@byelex.com](mailto:herman.vissia@byelex.com)

**Argon 1**  
**4751XC Oud Gastel**  
**The Netherlands**

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The authorities impose strict requirements on the provision of financial instruments. Some of these requirements are based on European legislation and apply to all member states (regulations), while others have been translated into local legislation by the Dutch authorities (guidelines). We aim to make an accurate inventory of all requirements and comply fully with them.

### Demarcation White Paper

One decisive element in determining the applicable requirements is the difference between IPO and ICO.

- In the case of extensive IPO, securities (shares, bonds) are publicly offered and/or traded on a regulated market. In addition, the Authority for the Financial Markets (AFM) requires companies to draw up a prospectus containing detailed information about the company and the financial instrument. This prospectus must be approved by the AFM and subsequently publicly presented for the IPO.
- When issuing electronic shares/tokens/coins (Initial Coin Offering, ICO) the obligation to have an approved prospectus available only applies if the total value of the offer exceeds EUR 5 million (as of 1 October 2017). For an ICO with a total value of less than EUR 5 million, the prospectus requirement is replaced by the exemption statement.

***Bear in mind! You're investing outside AFM supervision.  
There is no prospectus requirement for this activity.***

### Summary of White Paper

What Byelex offers is an ICO of a maximum of EUR 2,5 million, which therefore falls into the category of exemption statement. However, Byelex chooses to inform all participants as completely as possible. To this end, we are presenting this White Paper containing all the information that you, as an investor, need to form a sound opinion about the financial situation, the outlook, the technologies and the value.

This White Paper describes the duties and responsibilities of the director in relation to the information provided in the prospectus, which implies that should investors appear to have been deliberately misled, the director can be held accountable.

This White Paper illustrates for you how Byelex has been vigorously engaged in the research and development of new technologies and relevant practical applications in recent years. Important first

clients have already proved the potential these applications/products offer.

Now, Byelex is on the eve of a completely new phase, as the technologies developed are packaged in products and the knowledge and outstanding expertise is to be deployed more widely and more commercially. The important, logical next step will be to conquer the potential market opportunities effectively and efficiently with new insights and a new market approach.

It is to the credit of the founder and the incumbent management that they have been able to successfully manage this company all these years, even during periods of crisis.

**Attention!**  
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# 1.1 DECADES OF LEADING TECHNOLOGIES

Since 1994, Byelex staff has consisted of world-leading subject matter experts, academics, and technologists who provide practical, thorough, and insightful technologies that can be applied in a variety of industries across the globe. The research performed by Byelex over the last 10 years covers three major areas of technology, with various important subgroups. Byelex research provides cutting-edge expertise where business processes and innovative technological solutions meet. The technologies developed address relevant issues for financial services, regulators, banks (regional and global), financial market intermediaries, airports, occupational health organizations, telecom companies, universities, production companies, transportation services, and many others.

## Goal

This whitepaper offers an overview of our expertise and our products. It also outlines the need for investment, and the approach we take to monetize more than 10 years of dedicated research.

## Expertise and products

Byelex developed successful products and expertise in these three important fields of technology

- Location awareness, mobile & cloud technology
- Artificial intelligence & pattern recognition
- Cryptography.

Through Byelex, you own and apply, and have at your disposal:

- The most secure world-class encryption technology
- Highly-advanced natural language processing system
- Extremely sophisticated and impressive pattern recognition platform for videos
- sophisticated and successful occupational health system.

New insights, thanks to:

- Outstanding team of more than 40 specialist developers with innovation in their DNA
- Collaborative development with more than 20 specialized departments at Minsk University/ Belarus State University, Dept. Applied Mathematics and Information Technologies
- Great variety and expertise with software systems and areas of development for more than 20 years
- Constantly-upgraded best practices
- Partners, friends and ambassadors.

### **Solid investment**

ByeleX products and services have been successfully implemented in many organizations. However, the potential exceeds the actual revenues. In order to market this expansion, Byelex is looking to involve customers, suppliers, partners and ambassadors in developing great services and products by offering them shares in the company without the hassle and costs associated with traditional company funding.

For this reason, Byelex is going to tokenize the company shares in such a way that anyone with an Ethereum wallet can buy and sell Byelex company shares and also benefit from future Byelex successes and profits. Token holders can attend shareholder meetings and they will have voting rights.

Token distribution is secured by a set of smart contracts and the Byelex bylaws are public and will be published on GitHub. The Token sale will take place by way of an ICO (Initial Coin Offering) and will comply with the rules as set by the Dutch Governmental organization AFM (Authority Financial Markets) and the ACM (Authority Consumer and Markets).

# 1.2 THE SOFTWARE INNOVATION MARKET TODAY

## More effective investment

On average, 2% of the total turnover of companies and governments is spent on IT related products and services. (Source: Business Insider) Most of this budget is used for internal labour costs, and ongoing product or service improvement. Only a very small percentage is used for truly innovative projects; on average less than 0.5% of the total turnover. Considering these figures, and knowing that many software projects fail, it is easy to understand why most companies are reluctant to invest in innovations directly involved with software.

## More involved partners

Most software suppliers are not technology developers, but rather 'body movers', and we know them as System Integrators. They are unwilling to take a risk when developing new software since they themselves do not invest in the new technologies. They are only willing to subcontract projects by outsourcing, and implement off-the-shelf solutions rather than help the customer selecting the best solution for their needs, or co-invest with the customer in truly innovative technologies. This is where Byelex comes in.

# 1.3 OPPORTUNITY

## Higher rewards

With a new offering, called the 'LAB associate model', Byelex provides participating organizations with a modern, highly-streamlined alternative for their internal 'high risk - potentially high reward' projects.

## Better solutions

From its offices in the Netherlands and Minsk, Byelex is well positioned to help customers explore the latest insights into technologies such as Artificial Intelligence, Mobile and Security, offering an environment that will benefit almost every IT innovation project in a variety of industries. Byelex will have a multi-revenue model, which will ensure that the laboratory component within Byelex can work independently, performing ground-breaking academic research, while still making a profit applying insights specific to a customer's situation, and retaining the autonomous position needed to give solid advice and potentially develop the best possible solution for an organization.

## 1.4 BUSINESS MODEL

### Participating Associate

The existing set of products such as BuzzCovery, PicoPoint and StorGrid are market-ready and sold in the market via direct sales. Existing bespoke SaaS systems like the Occupational Health Systems will generate revenue for at least three more years and will continue to contribute to Byelex turnover. Because of the innovative way organizations and private persons can obtain shares of Byelex (through a crypto exchange), we will offer large organizations the option of obtaining shares in Byelex equity by making them a LAB associate shareholder and therefore a part of the success of Byelex.

### LAB Association

When an organization purchases more than the equivalent of EUR 50,000 of equity in Byelex, they become entitled to be an Associate of the Byelex LAB. Becoming a LAB Associate will bring these organization many benefits:

- Direct access to the latest technologies and insights developed by the various R&D teams within Byelex, by way of workshops and technology podcasts
- Opportunity to submit a 'real-life' research question or problem which will be discussed and assessed (max. 20 hrs.) by the core R&D teams within, or related to, Byelex
- An annual visit to one of the research centres in the Netherlands or Belarus to meet the scientists in person
- Invitations to two Associate events with exclusive speakers
- Sharing of cross-company knowledge among participating organizations on a regular basis.

As the Byelex LAB Associates community grows, the benefits of sharing knowledge and increasing expertise and state of the art solutions will lead to extra revenues. A LAB associate can choose to become a Byelex client, but this is not obligatory.

## 1.5 TARGET AUDIENCE

For the LAB associate, Byelex targets CTOs, CIOs, CEOs, and R&D managers who are looking to expand and take the next step in securing their market share, and who would like to make use of the outstanding Byelex expertise and community to support them.

# THE BYELEX LAB

The innovative power of organizations is increased by participation in the Byelex LAB. The Byelex LAB is the place where top technicians formulate appropriate answers to specialized challenges, business cases, wishes or focus areas based on continuous scientific orientation, state of the art software technologies and scientifically-validated insights.

WHICH OF THESE TERM SOUND FAMILIAR?		
Blockchain	Smart contracts	Crypto commerce
Supervised learning	Artificial intelligence	Pattern Recognition
Big data analysis	Dedicated search engines	Cloud storage
Security	Encryption	Portal development

## CHALLENGE?

You have probably seen all of them in the tsunami of info that you encounter every day. More importantly: where do you find time and resources to study all the implications for your organization? You don't want to miss any important developments and you want to secure and increase your market share and take the right decisions. Being the best is what counts and IT is leading.

## SOLUTION!

Participate in **Byelex LAB** and turn your challenge around. You decide the area of interest or the problem/opportunity and Byelex or related experts will ensure you get the answers. By joining the Byelex LAB, you will be supporting your innovation and R&D at the highest level. Smart cooperative research offers huge advantages: growth in efficiency, reduction of costs and elimination of risks. Flexibility and decision-making power provide new opportunities.

## JOIN THE BYELEX LAB

- Direct access to the latest technologies and insights developed by the various R&D teams at Byelex through workshops and technology podcasts
- The opportunity of submitting a 'real life' research question or problem which will be discussed and assessed by the core R&D teams within or related to Byelex
- An annual visit to one of the research centres in the Netherlands or Belarus to meet the scientists in person
- Invitations to two associate events with exclusive speakers. Sharing of cross-company knowledge among participating organizations.

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## 2.1 HISTORY

ByeleX was founded in 1994 and is an acronym for Byelorussian Experts. The basis has always been the strong cooperation with the Belarusian State University (BSU) in Minsk. ByeleX operates from two offices in the Netherlands, located in Oud Gastel and on the High-tech Campus in Eindhoven. Our office in Minsk is situated in the old science area of the city and we employ 48 specialists: 23 in Minsk and 25 in the Netherlands.

Minsk is where Herman Vissia, the founder and CEO, got his PhD at the Belarusian State University and where there is a strong connection with the faculty of Applied Mathematics and Informatics. The brightest minds at this faculty are allowed to do their internship at ByeleX and eventually obtain a permanent position. They bring a scientific and fresh approach to the problems that ByeleX typically tackles. On average, only approximately 23 students graduate at this level every year. As ByeleX Minsk has also been appointed 'commercial laboratory' by the faculty, there are realistic opportunities present for further expansion of the teams.

Over the years, ByeleX has contributed to more than 50 scientific publications, collaborating with the Faculty of Applied Mathematics & Informatics on topics like

Artificial Intelligence, Pattern Recognition, Encryption and Big Data. Every year, more than 15 students complete assignments in advanced programming with the help of our senior staff. In the last two decades, ByeleX was entrusted with many high-end and highly visible projects, for both domestic and international clients. ByeleX has vast experience with very large software systems, facilitating millions of transactions, mainly in the fields of healthcare, telecom and finance. Based on its experience and extensive technical knowledge, ByeleX has always been able to create autonomous growth while securing the long-term continuity of their respective customers.

## 2.2 THE LEADERSHIP TEAM

### **Herman Vissia, Founder and CEO**

Herman Vissia is the Founder and CEO of Byelex. He works with the various departments and scientists from the Belarusian State University Minsk (BSU) and is a member of the High-tech Park in Minsk. In 2012, Herman became the first Westerner to complete their PhD thesis at the BSU. His thesis was entitled 'Models, Algorithms and the technology for decision-making intellectualization based on subject collections'. Herman pioneers technology for the Semantic Web, performs research in the field of cryptography, and gives lectures on cryptocurrencies and Blockchain technology.

### **Edwin van der Hooft, COO**

Edwin started out as a Quality Consultant, taking on the EQS product. In this capacity, he successfully implemented large-scale Quality Documentation systems for a variety of Multinationals. He managed numerous software projects and since 2010 he has been managing the entire operation at Byelex. He became a shareholder at Byelex in 2008.

### **Toshio Spoor, CTO**

Toshio joined Byelex way back in 1998. He is passionate about security, Linux and complex networks. He managed large-scale software development projects, from building to deployment and maintenance. He is the security expert when it comes to networks, hosting, and cloud environments. Toshio became a shareholder at Byelex in 2013.

### **Michel van Westen, CCO**

Michel is an experienced and creative business professional. He has been active in the payments area since 1998, and has a strong track record in sales, marketing, development, innovation and strategy. Before joining Byelex in Februari 2018, he was responsible for development and strategic alliances and a member of the management of a leading Payment Institution in the Netherlands. He is also the former chairman of the Dutch Association of Payment Institutions and board member of the Dutch Payments Association. Michel is in the lead in expanding Byelex to the Next Innovation Company.

## 2.3 THE 'RING OF TRUST' OF THE NEXT INNOVATION COMPANY

In addition to the core team, Byelex has assembled a group of entrepreneurs and experts with a distinctive track record, in order to support and advise us in the next step of the development of the organization. Byelex had the vision and strength to invest large amounts of time and money in emerging technologies, purely from a scientific and technological perspective. In the next phase, Byelex wants to start capitalizing on these investments by connecting the developed solutions to real business cases, where innovation is paramount.

## 2.4 THE ADVISORY TEAM

In addition to the core team and the ring of trust, Byelex worked closely with our notaries, lawyers and accountants. In this respect, the following three people are more than worthy of mention:

### **Mr. E.P.B. ten Brinke (Eric)**

*Notary at Ligne Netwerk Notaries*

Eric is an all-round notary with more than 14 years of experience in all areas of modern Notary business in the Netherlands. He graduated Cum Laude in Dutch Law from Nijmegen University.

### **Mr. P. Knobel (Piet)**

*Accountant & Business consultant at Accountantskantoor Knobel (AA)(FB)(FFP)*

Piet has more than 25 years of experience in the accountancy world. He has worked, and work for numerous medium and large organizations in the field of accountancy, business development and company valuation. Piet has been trusted Byelex advisor for almost 20 years. He knows the company and its management through and through, so he was more than able to assess precisely the financial paragraphs in this White Paper.

### **Mr. R. Wolfert (Roel)**

*Founder of Qoin and advisor for token campaigns such as KickICO and Bancor*

Roel applies his skills and knowledge from 20 years of international experience at the interface of business and technology to retail and transactional banking, payments, retailing, management consulting, IT and venture capital. Roel has a master's degree in economics from Maastricht University and an executive degree in innovation from the Haas School of Business at UC Berkeley.

# OFFICES

**BYELEX COMBINES THE BEST OF BOTH WORLDS.  
OUR OFFICES ARE LOCATED IN THE WORLD'S SMARTEST REGIONS.**

- High Tech Campus in Eindhoven, the Netherlands where development and lively entrepreneurship are the key drivers for business. This location is supported by our well-equipped Head Office at Oud-Gastel near Rotterdam.
- High Tech Park at the University of Minsk, where our most talented mathematicians and programmers are constantly renewing and applying the latest IT developments.

## **HIGH TECH CAMPUS, EINDHOVEN NETHERLANDS**

*An inspiring combination of research under one roof. With the presence of technical global players like Philips, ASML, NXP, FEI Company, DAF, VDL and TomTom, the Eindhoven Brainport region has always been the location to build and accelerate a high-tech start-up or scale-up. The magic of High Tech Campus Eindhoven is simple; the people.*

*Accelerate your business by achieving faster, better and more customer-oriented innovation.*

- 150 Campus companies (Philips, NXP, IBM, Intel)
- international networks
- Over 10.000 smart people.

## **HIGH TECH PARK, MINSK BELARUS**

*What makes High Tech Park unique in the world is the overwhelming mix of high-quality technical education, highly-skilled IT professionals and government support for the IT industry. According to the World Bank: Belarus aims to be in the top 20 new business countries in 2020. A realistic aim: Belarus has risen from 63rd place in 2014, to 50th in 2015 and 37th in 2017; turnover of more than EUR 1,000,000,000. Over 100,000 smart people available in Belarus, 30,000 of them work in the High Tech Park, 50% are under 30 years old: the Byelex offices in Minsk employ the best.*

*No wonder most of the world top-tech companies like Microsoft, Oracle, Salesforce, Google, SAP, Amazon, IC, Apple, IBM, Cisco, EY and Siemens have business interests in Belarus.*

ByeleX is *not* a new company. We have been in business since 1994 and have proven to be a trustworthy, highly-skilled partner for many clients at home and abroad. We have developed important and solid high-tech products and solutions both on our own initiative and in collaboration with clients. Byelex not only promises success; we have proven our skills for more than two decades.

Mission:

**“ByeleX helps to increase the innovative strength of organizations by using pioneering technologies, scientifically-validated insights and proven cases.”**

We are entering an era in which cooperation is central. We believe in the Next Innovation Company for a number of reasons:

**1. The participation model** is based on the idea that you will have access to a smart technological backbone, deployed for innovation through shared leadership. Byelex believes in the participation model. Technology must fit in with the needs and wishes of today and tomorrow. Since nobody can keep track of everything, collaboration is the only smart solution. We would like to play an important role in the subscription economy with the combination of smart technology and market vision. Today's 'share' economy demands services rather than products and Byelex is the technological backbone of this. Byelex is also adding a front end, which ensures that technology works as an accelerator in the development of concepts and business models in the Business as a Service Economy; Byelex is the driving force behind future innovations.

### **2. Association LAB**

The essence of this idea is that in the new world, when you're involved with your own technological backbone, you, as organization, are continuously fed the latest developments in various core technologies which are continually challenging your organization's current backbone. In addition to the financial attraction of participation, we combine the ICO with a foundation of the LAB. That means that we believe that you are also entitled to share the LAB function.

### **3. Launching successful products**

An important commercial spearhead is that Byelex will continue to launch white-labeled and commercial products and services which are in line with the above. So, forget the old-fashioned way of purchasing 'one size fits all' software packages and team up with a company that does R&D with you and for you, tailored to your needs and your environment.

## 3.1 KEY TECHNOLOGIES

ByeleX has an almost 24-year history of developing technologies, methodologies, and solutions in various fields such as Artificial Intelligence, Data Logistics, Planning Algorithms, Encryption-based technologies like Attribute-Based Encryption and Blockchain, Natural Language Processing and mobile access and authentication systems. We have almost unlimited access to the R&D facilities at [BSU \(Belarus State University\)](#). All of the technologies that are covered by the Byelex teams are innovative and unique and based on these technologies, it is possible to create solutions for a very broad range of economic activities.

### 3.1.1 LOCATION AWARENESS, MOBILE & CLOUD TECHNOLOGY

Existing customers using our technologies belonging to this category are ZIGGO, IKEA, De Persgroep, and Cisco. From this category, two spin-offs have already been realized: [EventTouch](#) and [Picopoint](#).

### 3.1.2 ARTIFICIAL INTELLIGENCE & PATTERN RECOGNITION

Within this category, we distinguish various sub-categories, such as Decision Support Systems, Natural Language Processing technologies, Deep Learning, Supervised Learning and Pattern Recognition. Typical customers using these technologies are Scottish Water, ArboNed, Leo Kanner Institute and De Persgroep. Products developed within this category are [BuzzCoverly](#), Publizz, EQS and [Logo Detection](#).

### 3.1.3 CRYPTOGRAPHY

The essence of this technology category is the security of data. Whether it is endpoint encryption on mobile devices, the use of Blockchain technology to ensure a trusted transaction or the implementation of extremely secure Wi-Fi networks. Byelex has the expertise and has developed proven products in all these categories. Products and customers within this category are Picopoint, Attribute Based Encryption in Storgrid, and secure transactions on the Bitcoin ATMs that are operated by Byelex. Typical customers are La Gro Advocaten, Noris network, Mazars, Ziggo, and High-tech Campus Eindhoven.

## 3.2 TECHNOLOGY IN DETAIL

This section will give insight into the technologies developed or currently under development. We will present the various technologies together with hyperlinks to websites, scientific articles, and Wikipedia posts together with real business cases.

## 3.2.1 GENERAL SOFTWARE TECHNOLOGIES

### THEORETICAL APPROACH

ByeleX integrates software to materialize business solutions. So it is good to know what kind of software Byelex uses to build the proposed solutions. We have to describe the 'toolkit' and the skillset that we require from our scientists and programmers. The type of programming language used is generally not so important.

### APPLICATION

We have some products for which we had to program in 5 different languages, like C#, Java, Node.JS, C++, and JavaScript. But we have a preference for Java. It is simply the most mature programming language for the development of large-scale solutions. There are plenty of 'spin-offs' like Python, but in essence, Java is the core competence within Byelex. For databases, we have a preference for Oracle, but other open source databases like MongoDB, MySQL and PostgreSQL are no strangers to us. We love to work based on Web services and API's for integration and we strongly believe in standards in this field, as this enhances operability between components. We have an extensive experience with Lotus Notes and won several prizes for our solutions: EQS (Electronic Quality System) for example, which is still running at some large organizations like Scottish water today. We operate from 3 different datacenters where we have systems running on Solaris, Linux and even Windows. We use machines from NetApp for Backup and Oracle & Dell for our VMs or Bare Metal servers. Network technology comes from Cisco and HP.

### EXAMPLES

EQS  
Storgrid

## 3.2.2 PORTAL TECHNOLOGIES

### THEORETICAL APPROACH

Almost all the research work we do at Byelex results in some sort of Portal where one can manage customers, data and/or payments.

### APPLICATION

Because we have developed many of those portals, we now have an extensive library of components we can use for fast deployment of a new portal. Typical library components are user registration and verification modules, interface modules made in Bootstrap, PDF, WORD, EXCEL export routines, dashboard templates for representing management data, and many more 'ready to use' modules.

### EXAMPLES

Some examples of these portals are RiVER, an innovative Insurance handling portal. 'Tempus Scriptor' is a time registration management portal for medical specialists and RankYourPins is a portal for the determination of best choices based on pictures. Eventtouch is an event management portal solution that handles hundreds of events every year for several multinationals and national organizations.

## 3.2.3 ARTIFICIAL INTELLIGENCE

### THEORETICAL APPROACH

As an early innovation adaptor, Byelex started development in the field of A.I. in 1994. The first application was an expert system that diagnoses a patient's physical complaints based on the input of a family doctor. Byelex has published more than 10 scientific papers, all on the innovative way of implementing fuzzy logic into the knowledge designer that we built for this project. The outcome was a multi-purpose 'knowledge designer' that can be used in a number of fields where expert knowledge is needed. We have built experts systems for failure diagnosis on complex technical systems, mortgage expertise, an online family doctor, an online career advisor, an online test to help choose a study for undecided young people, an online washing machine advisor, to name but a few.

### APPLICATION

We believe that this @dvisor technology is ideally suited to automation of service portals where customers have to make choices based on expert knowledge and where there is always some uncertainty on their part.

### EXAMPLES

Expertise Centre for Autism in the Netherlands, where @dvisor is used to detect autism in young children by means of an interactive questionnaire. This system 'Heeftmijnkindautisme.nl' (Does my child have autism?) has already been running for 6 years and has advised thousands of worried parents in 3 different languages.

## 3.2.4 PATTERN RECOGNITION

### THEORETICAL APPROACH

At Byelex, we have a dedicated team carrying out research in the field of pattern recognition in images. More specifically in detecting logos in videos. By means of supervised learning, we train the algorithms to detect various logos in videos.

### APPLICATION

We developed various tools and built a laboratory set-up where we trained the system to detect logos.

### EXAMPLES

Red Bull and the detection of their logos in their videos. After extensive research and testing, we are now in the process of building a production portal where users can train the system to detect new logos and where they can upload a video for detection which results in an extensive dashboard of information. The technology can also be used for other purposes like facial detection, object detection or any other application where detecting of shapes in large picture sets (videos) is required.

## 3.2.5 SECURE DATA LOGISTICS

THEORETICAL APPROACH	Secure Data Logistics or SDL technology consists of various technologies, mostly developed in-house at Byelex. One of the core concepts is the protection of mobile devices against data theft.
APPLICATION	Various scientific articles have been written and our team has developed a full product. This allows the presence of huge data logistics within a corporate environment, totally secure, without the problem of massive encryption/decryption activities.
EXAMPLES	One of the most innovative things we have done is the successful implementation of Attribute-Based Encryption (ABE) in the StorGrid System.

## 3.2.6 NATURAL LANGUAGE PROCESSING

THEORETICAL APPROACH	Byelex has been researching, and building applications for more than 8 years in the field of <a href="#">Natural Language Processing</a> , more specifically in the field of <a href="#">Named Entity Recognition (NER)</a> .
APPLICATION	We developed the technology OpenDover, with which we can detect sentiments and mood states in news and blog items. We can also detect a variety of specialized entities like <a href="#">OpenDover</a> (to which economic activity does this article belong, what events or topics are discussed in the article, what knowledge domain does the article belong to etc.) We can detect a long list of various entity types, including 25 different organization types, person names, technology terms Industry terms and medical terms.
EXAMPLES	The technology is implemented in successful in-house applications like <a href="#">BuzzCover</a> , a semantic search engine, <a href="#">BuzzTalk</a> , a big data research tool for PR & Marketing, and <a href="#">Publizz</a> , a Content curation tool allowing companies to compile Electronic Magazines for their stakeholders, such as customers, shareholders, suppliers and personnel.

## 3.2.7 MOBILE ACCESS, LOCATION AWARENESS AND AUTHENTICATION

THEORETICAL APPROACH	At Byelex we perform a significant amount of research in the field of authentication and registration, in particular on mobile devices and more specifically, Wi-Fi.
APPLICATION	We have developed various APIs and products to allow network operators and telcos to utilize their existing WiFi networks and to give them the tools to develop innovative new ways of using these networks.
EXAMPLES	Most of the research results in this area have been directly implemented in the Picopoint technology stack.

## 3.2.8 PLANNING & SCHEDULING

THEORETICAL APPROACH	We have developed a technology for scheduling medical examinations. The planning and scheduling technology is based on the theory of <a href="#">Sweep Algorithms in Computational Geometry</a> , quite a new application for this kind of math, and all developed by our scientists in Minsk.
APPLICATION	The functioning of the planning system can be seen as the processing of permanently incoming requests (orders) for medical examinations via manual input by medical staff and via a web page by candidates themselves.
EXAMPLES	The planning system has been implemented at the largest occupational health organization in the Netherlands, ArboNed.

## 3.2.9 BIG DATA HANDLING

### THEORETICAL APPROACH

For various projects we have had to familiarize ourselves with technologies dedicated to the handling of large amounts of unstructured data, like text or videos.

### APPLICATION

Besides the use of standard solutions like Cassandra clusters and the Lustre file system, we have developed a custom integration of these technologies into our own solutions. Implementation of these technologies can be found in solutions like BuzzCoverly, where a user can search through more than 700 million publications, including more than 10 billion tags with a response time of less than 1 second. We used Cassandra cluster technology for this, together with Lucene and our own modified search accelerator software. Another example is Logo detection, where we have to process between 100 and 250 hours of video per day, making it instantly available to a large audience. The Portal that we developed utilizes Lustre Technology, predominately seen in super computers for fast processing and retrieval of large files.

### EXAMPLES

[BuzzCoverly](#)  
[Logo-detection](#)

## 3.2.10 CRYPTO CURRENCIES & BLOCKCHAIN TECHNOLOGIES

### THEORETICAL APPROACH

Since 2013, Byelex has been involved in the new and exciting area of Blockchain technology. We have built Crypto miners and special portals for the management of distributed mining systems, we have investigated the inner workings of Blockchain technologies and experimented with Solidity, the Script language for developing smart contracts on the Ethereum Blockchain

### APPLICATION

We are currently operating a network of Bitcoin ATM's in The Netherlands, Belgium and Spain, one of which is located on the High Tech Campus in Eindhoven. We give lectures on the implications of Blockchain technologies and are actively promoting further research in this direction at the [Belarusian State University](#) in order to train new students in the use of this technology in fields other than FinTech.

### EXAMPLES

Smart contracts for Medical, Notary, Insurance, ICO-factory

## 4.1 HOW THE VALUE OF BYELEX IS DETERMINED

As stated in other parts of this document, Byelex has been focusing on developing core technologies for the last seven years. So it is important to know how much effort is being put into Byelex at present.

In 2009, we started with our Natural Language Processing Technology. It took six years to complete all the basics and prepare it for mass implementation. We invested more than 85.000 development hours, up till 1 October 2017, on completing the technology including the creation of BuzzTalk, BuzzCoverly and Publizz; products that are using this core technology.

In 2013, we began developing our encryption technology based on Attribute Based Encryption. This resulted in the creation of a product called StorGrid. To date, approximately 60.000 development hours have been spent on this particular technology. Various parties have invested, through two subsidiaries, named Byelex Sales BV and Byelex Data Solutions BV. In October 2017, all assets of both entities were purchased by Byelex, mainly by paying the investors in Byelex Solutions

BV equity, the company that operates under the name of Picopoint. This decreased the stake that Byelex had in Picopoint to the point mentioned in the overview.

During the last six to eight years, the focus was on the development of various technologies rather than on the market adoption of these technologies. This is the main reason behind the flat growth rates during this period.

In preparation of the new strategy and the ICO, all the important technologies are back in the hands of Byelex. Besides the experience and in-depth knowledge of the key developments as described in Section 3.1, Byelex will be able to penetrate the market from now on, with tested high-value products and knowledge.

### 4.1.1. WE HAVE TOKENIZED OUR SHARES OF THE COMPANY

The BYESHARES token is not only a digital crypto code for a coin that will have to prove its value in the future: every BYESHARE represents a real part of the 24-year-old company with promising perspectives. The underlying asset is a share of the company. Each share entitles the owner to receive dividends and to attend the annual shareholder's meetings. Byelex has chosen the Ethereum Blockchain for the issue of ERC20 tokens. Although Byelex is limited by Dutch law to selling tokens of no more than an equivalent of EUR 5 million in value, we will only sell a maximum of EUR 2,5 million in tokens (BYESHARES), since that is all the investment needed at this time. With regard to the valuation described in the next chapter, a total of 1.791.716 will be brought into circulation. 15% of these tokens will be issued to the public with the intention of accumulating EUR 2,5 million for further development of the company, as explained earlier in this document. 1,5% of the tokens will be used to reward personnel in our Minsk office and the other tokens are already in possession of the existing shareholders of Byelex.

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## 4.1.2 FINANCIAL BREAKDOWN AND VALUATION METHODOLOGY

	Development hours spent to 01-10-2017	Total hours investment	Equity %	SaaS turnover per year	Total value SaaS (when sold)	Total Value of company
Value BuzzTalk	90.000	4.050.000,00				
Value StorGrid	40.000	1.800.000,00				
Value Encryption	10.000	450.000,00				
Value ArboNed				800.000,00	4.000.000,00	
Value shares <a href="#">Picopoint</a>			32%			4.800.000,00
Value shares <a href="#">Eventtouch</a>			23%			625.000,00
Value <a href="#">Logo Detection</a>			50%			250.000,00
Value <a href="#">Bitcoin ATM</a>				150.000,00	250.000,00	
		<b>6.300.000,00</b>			<b>4.250.000,00</b>	<b>5.675.000,00</b>
<b>GRAND TOTAL</b>						<b>16.225.000,00</b>

\* All other technologies in this White Paper – however promising - are prudently valued at ZERO as we anticipate, but cannot guarantee, successful market introduction. However, we believe that it can be easily valued at upwards of EUR 1,5 million. Which leads to a realistic total value of EUR 17,7 million.

### 4.1.2.1 FINANCIAL BACKGROUND

The financial report of Byelex can be obtained on request.

In general, we can state that Byelex has invested significantly in current technologies for the past 5 years. The very moment that these technologies reach the market, there will be an instant positive effect on the results, since the investments have been booked in the past financial years. There is a little pressure on the cash flow but positive developments tell us that this pressure will be relieved in the second half of 2018. The yearly results show a slight loss for a longer period but this was caused by the preliminary investments in as yet unactivated product development. The ratios below show that Byelex can be considered a healthy enterprise.

#### Liquidity:

Quick ratio	2.61
Current ratio	2.61

#### Solvency:

Ratio equity/total assets	0.54
Ratio equity/debts	1.20
Ratio debts/total assets	0.46

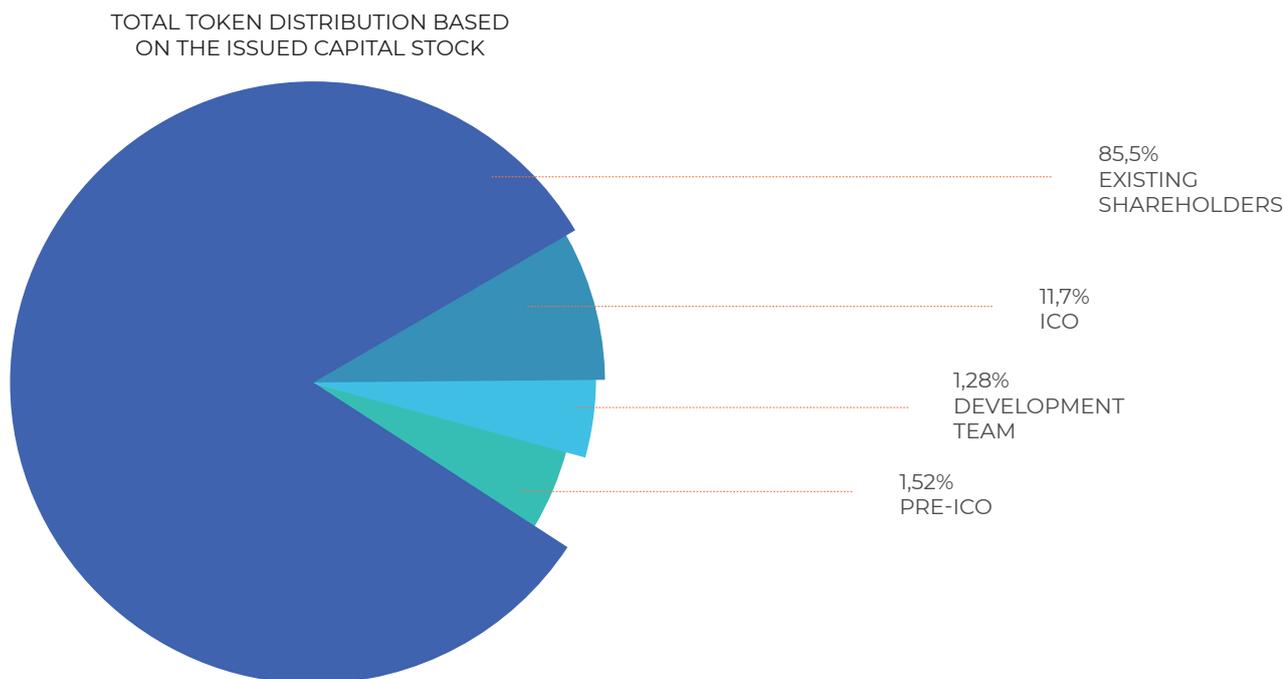
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## 4.1.3. TOKEN DISTRIBUTION AND VALUE

### Token distribution

Initially, tokens will be distributed based on the number of shares that existing shareholders have in Byelex BV. This entity generates 9,100,000 shares as authorized capital stock. Byelex can put a maximum of 7% of all shares issued on the market each year, limiting dilution for the shareholders. If Byelex decides to issue the full 7% each year, it will take roughly 26 years for all authorized capital stock to be issued!



Ownership of BYESHARES carries numerous rights, as stated in the Bylaws (Deed of Incorporation) of Byelex BV, and can be verified via GitHub where these Bylaws are registered.

Max supply of 9.100,000 BYESHARES

Total BYESHARES issued to existing shareholders: 2.131.900 BYESHARES

600.000 of these shares were bought by Byelex itself in 2016, leaving  
1.531.900 BYESHARES issued to external shareholders

Value of 1 share =  $16.225.000 / 1.531.900 = € 10,59/\text{BYESHARE}$

To be issued to Byelex Minsk: 22.979 BYESHARES

To be issued during pre-ICO 1,5% = 27.210 BYESHARES  
(30% discount = € 7,41/ BYESHARE)

To be issued during ICO 13,5% = 209.627 BYESHARES  
(15% discount = € 9,00/ BYESHARE)

### Token value

The deducted value of one token has been determined to be EUR 10.59 resulting in a total valuation of the company after the Pre-ICO and ICO at = € 18,974,272

### Pre-ICO

In the pre-ICO, only investors invited by the management of Byelex can participate. The minimum value of investment during the pre-ICO is EUR 2,500. A bonus scheme is applicable for all pre-ICO participants (30% discount); the pre-ICO price will be EUR 7.41 per token. Effectively, pre-ICO investors receive 337 tokens for every EUR 2,500. Tokens can also be paid via EURO or Ethers or Bitcoins during the pre-ICO, calculated by actual value. The value of a token in Ethers or Bitcoins depends on the price of the Ether or Bitcoin at the time of purchase. (Pre-ICO ended 31 January 2018)

### ICO

During the ICO, everybody can participate. There will be a minimum investment of 10 tokens per purchase. A bonus scheme is applicable for all ICO participants (15% discount); the ICO price will be EUR 9 per token. Tokens can be paid via the BYESHARES website or via a bank transfer to:

Bank account: NL68ABNA0644525924 attn: Byelex BV. (In the description, mention ICO participation)

Or via Ethers or Bitcoins via the Byeshares website, calculated by actual value. The value of a token in Ethers or Bitcoins depends on the price of the Ether or Bitcoin at the time of purchase.

## 4.2 ACQUIRING BYESHARES

BYESHARES will be issued during our crowd sale or ICO. The sale will last six weeks from 29 March 2018 to 10 May 2018. BYESHARES can be bought via a secured sale platform that can be reached through the official website for this token - [www.byeshares.com](http://www.byeshares.com).

## 4.3 BYESHARES SELL-OFF BY PERSONNEL

BYESHARES may be freely sold and traded after the token gets listed on a crypto exchange. However, an exception will be made for shareholders with a share larger than 5% of the total amount of stock issued before the ICO. They may sell only 10% of their total shares in the first year after the ICO, the second and third year only 20% of their shares. The fourth year they are free to sell off all their remaining shares.

## 4.4 DIVIDEND POLICY

ByeleX is aiming to pay out 45% of the net reported profits to its shareholders. The rest of the net profits will be used for further business development and investments in fundamental research. The total dividend for a certain year has to be approved during the annual shareholders meeting, and ByeleX will pay the obligatory 15% of Dutch dividend taxes prior to the pay-out of the dividend to the shareholders.

## 4.5 BUDGET ALLOCATION

How will the acquired funds be applied? As stated in this White Paper, the funds will mainly be allocated to the expansion of the potential, in order to realise opportunities.

To be more precise:

- The initial focus will be on implementing new support tools and back office options to support partners and clients
- Regarding compliance, a part of the funds will be used for additional compliance certification needs such as GDPR and the introduction of the COSO ERM framework.
- In addition, and based on the strategy, we will adjust and expand the commercial organization with experienced sales and development consultants and communication specialists.
- To attract a product marketer for each of the respective productlines to develop the market and product potential.
- A new marketing and communication strategy will be deployed to position ByeleX with more traction and awareness in the market and to support the products.
- As the world becomes more connected, the conviction and strategy is to build a community and partner program to raise the awareness and potential of the ByeleX organization.
- The further development of new and existing products and technologies.
- A portion of the funds will be set aside for any future unforeseen costs.

## 5.1 RISKS INVOLVED WHEN INVESTING IN BYELEX

### LOSS OF CUSTOMER RISKS

Although Byelex does have long term relationships with customers and partners for the purchase of its products, we can't guarantee long-term commitments. As a result, Byelex is only dependent on recurring purchase orders to a certain degree. There is no assurance that Byelex will continue to receive purchase orders for its products, either on substantially the same terms or at all. This could have an adverse effect on Byelex's operations and profitability. Likewise, any significant unexpected change in technological developments or buying patterns of our end users could adversely affect the business and results of operations of Byelex.

### INTELLECTUAL PROPERTY RISKS

Byelex's business may be affected due to the strategic reluctance or inability to protect its existing and future intellectual property rights. In our opinion, filing for patents reveals too much of our precious technical information which could potentially be used by Byelex's competitors. As a result of this strategic choice, Byelex does not possess patents for the logo detection technology, the natural language processing technologies or the encryption technologies.

### FINANCIAL RISKS

Byelex's business requires a substantial amount of working capital. In many cases, working capital is required to finance the payment of salaries and execution of work on projects before payment is received from clients. The required working capital may increase if Byelex were to enter into certain use-based contracts without advance payments. Or if payment schedules were to become less profitable. In such situations, Byelex might need to borrow funds to fulfil its working capital needs. Continued increasing pressure on the working capital requirements could have an adverse effect on the financial condition and the results of operations.

### OPERATIONAL RISKS

Byelex's success largely depends on the continued services and performance of existing management and other key personnel. The loss of service of promoters and other senior management either in the Netherlands or in Belarus could seriously impair the ability to continue to manage and expand the business efficiently. In addition, the loss of any of the senior management or other key personnel may adversely affect the operations, finances and profitability. Any failure or inability on the part of Byelex to efficiently retain and manage human resources would adversely affect the ability to implement new projects and expand the business.

### MARKET RISKS

Byelex operates in areas of technology that have only very recently emerged. The crypto market is very volatile, whilst the artificial intelligence market only develops to a large extent in the academic research centers or in the laboratories of the large software companies like IBM, Google, Facebook and Alibaba. Byelex's strong state of the art focus means that it is not decisively clear which types of technologies will eventually prevail or which company will enter which market with which product or service. It could be that a Byelex product finds itself in direct competition with a very large company, which implies a risk of Byelex being unable to compete with the marketing and sales power that multinationals have.

SALES RISKS	ByeleX's sales revenue comes predominantly from the sale of IT products, knowledge and services. The industry has developed quite fragmentedly in nature and competitive force. In case of any downturn in this industry or if the demand does not keep pace with the supply build-up in the industry, business operations may be adversely affected. Also, if Byelex were to prove unable to maintain the actual upgraded supply of new technological developments in our industry, it could adversely affect sales revenue and business.
DILUTION RISKS	ByeleX may require additional funds at various points of time in order to grow. With regard to that goal, Byelex may raise funds by various means including debt, equity and securities convertible into equity. Any such issuances of equity and securities convertible into equity would dilute the holding of Equity Shareholders. Difficult market conditions can adversely affect business in many ways, including by reducing the volume of the transactions involving advisory business.
DIVIDEND RISKS	ByeleX's future dividend payments, if any, will depend upon future earnings, financial condition, cash flows, working capital requirements, capital expenditures, applicable Dutch/European/American legal restrictions and other factors. Because of all these influences, there can be no waterproof forecasts about Byelex's dividends.
VOLATILITY RISKS	ByeleX's Equity Shares' trading price may fluctuate after listing. Unpredictable adjustments might occur due to a variety of factors, including but not limited to: results of operations, performance of business, competitive conditions, general economic, political and social factors, the crypto market in general, global economy, significant developments in the Dutch fiscal regime, volatility in the local/global crypto securities market, performance of competitors, changes in the estimates of performance, recommendations by financial analysts, announcements regarding contracts, acquisitions, strategic partnerships, joint ventures and capital commitments. In addition, if the crypto markets experience a loss of investor confidence, the trading price of our Equity Token could decline for reasons unrelated to our business, financial condition or operating results. Furthermore, the trading price of our Equity Tokens might be influenced as a reaction to events that affect other companies in our industry even if these events do not directly affect us.
CRYPTO MARKET RISKS	ByeleX provides a first-off: to date, there has been no public market for Equity Tokens. To our knowledge, Byelex is the first company that is issuing shares via the tokenization of the company shares. We plan to list Byeshares Equity Tokens on platforms like <a href="http://www.orderbook.io">www.orderbook.io</a> or <a href="https://etherdelta.com/">https://etherdelta.com/</a> . These exchanges may decline Byeshares as they are Equity Tokens, not utility tokens. If this is the case, Byelex is considering starting its own exchange, meaning that it could take longer before the Equity Tokens can be traded freely. After the listing, there can be no assurance that an active trading market for Byeshares Equity Tokens will develop. Pursuant to the listing, Byelex does not allow trading transactions of Byeshares Equity Tokens. As a result of this, no assurance can be given regarding shareholders' ability to sell Equity Tokens at any particular time.
COURT CASES AND ARBITRAGES	ByeleX is proud of its legal solidity. In the past, there has been only one court case regarding Storgrid. Final settlement in this case has been reached. There is an arbitrage case with one of our customers, which could, potentially, result, in a settlement of a maximum of EUR 45,000. On the other hand, we are confident that it will result in our favour, with a positive result of EUR 75,000

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## 5.2 GOVERNANCE POLICIES

ByeleX's intention is clear as far as governance policies are concerned. We already maintain a policy regarding AML, and we are in the process of implementing the highest KYC policies and a Quality policy that will result in an ISO accreditation. Furthermore, we are working on a Publication policy, on the performance of the company, a market abuse policy, a conflict of interest policy and an insider trading policy. We expect to have these policies in place before the end of 2018. The policies will be subject to approval during the first annual shareholders meeting.

## 6.1 CORE VALUES OF BYELEX

- Our clients interests always come first. If we serve our clients well, our own success will follow
- Integrity and honesty are at the heart of our business
- We win as a team and we lose as a team. Take charge of the desired outcomes and be accountable for the results
- We constantly strive to anticipate the rapidly-changing needs of our clients and to develop new services to meet those needs
- We have an optimistic approach to innovation and believe in the future
- We take pride in our work



Byelex Head Office  
Argon 1, 4751 XC Oud Gastel