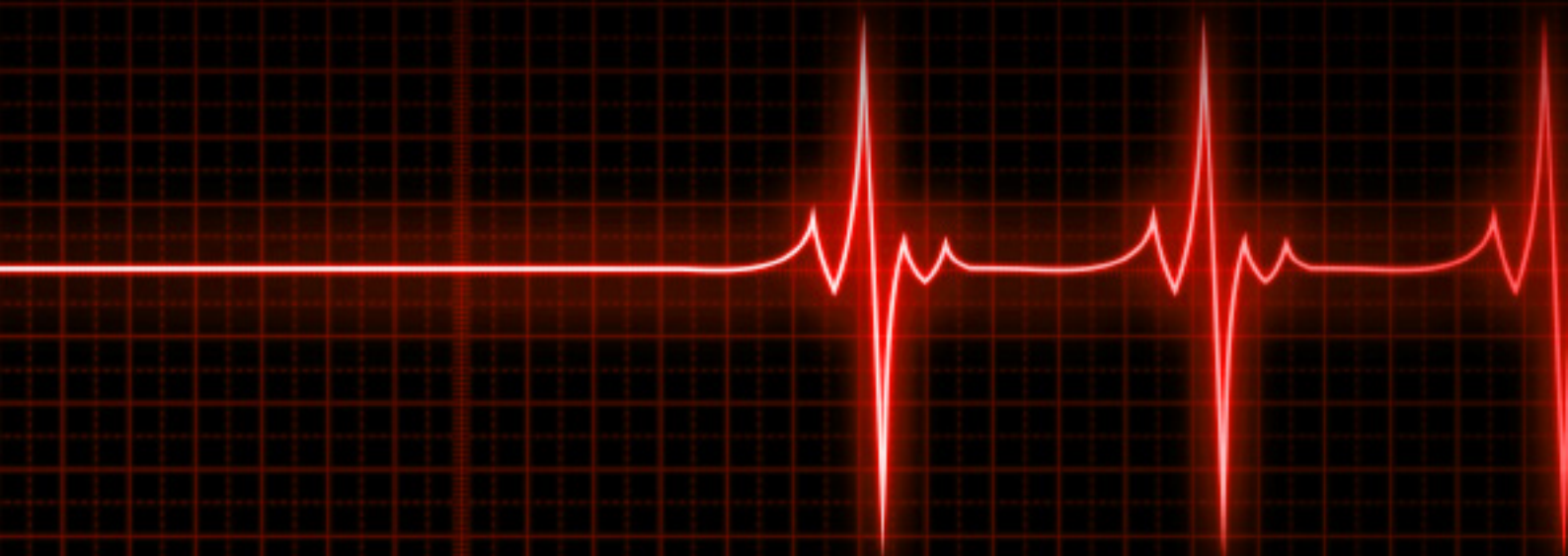




# LENUSCHAIN

finally providing you with comprehensible health data



WHITEPAPER

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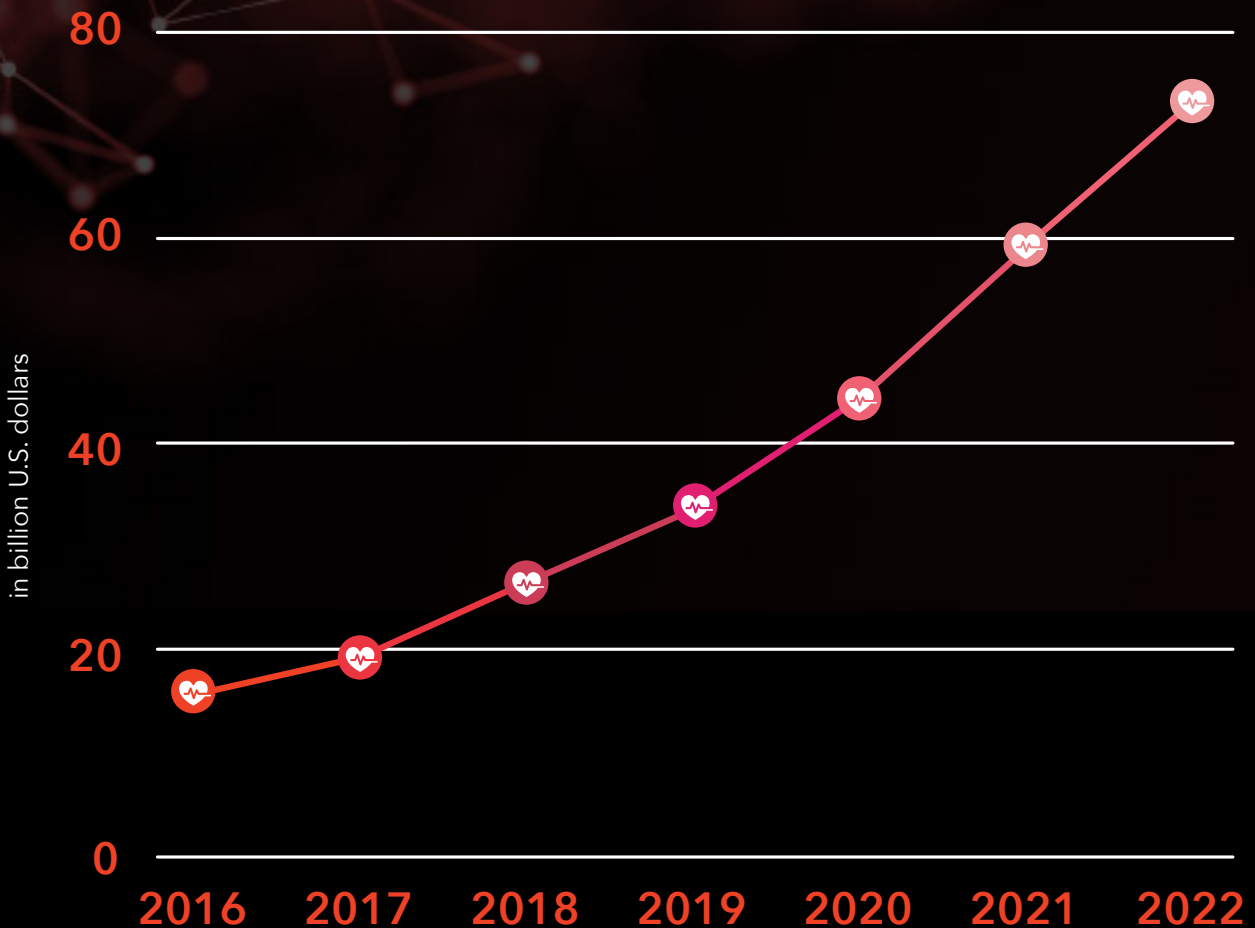


# 1.0 INTRODUCTION

## 1.1 BACKGROUND OF THE WEARABLES INDUSTRY

The wearables industry refers to electronic devices that can be worn on the body and can measure certain types of biometric data. The information measurement ranges from the number of paces to the cardiac rhythms of the individuals. The industry has been growing at an exponential rate as the technology is constantly evolving and consumer awareness is increasing.

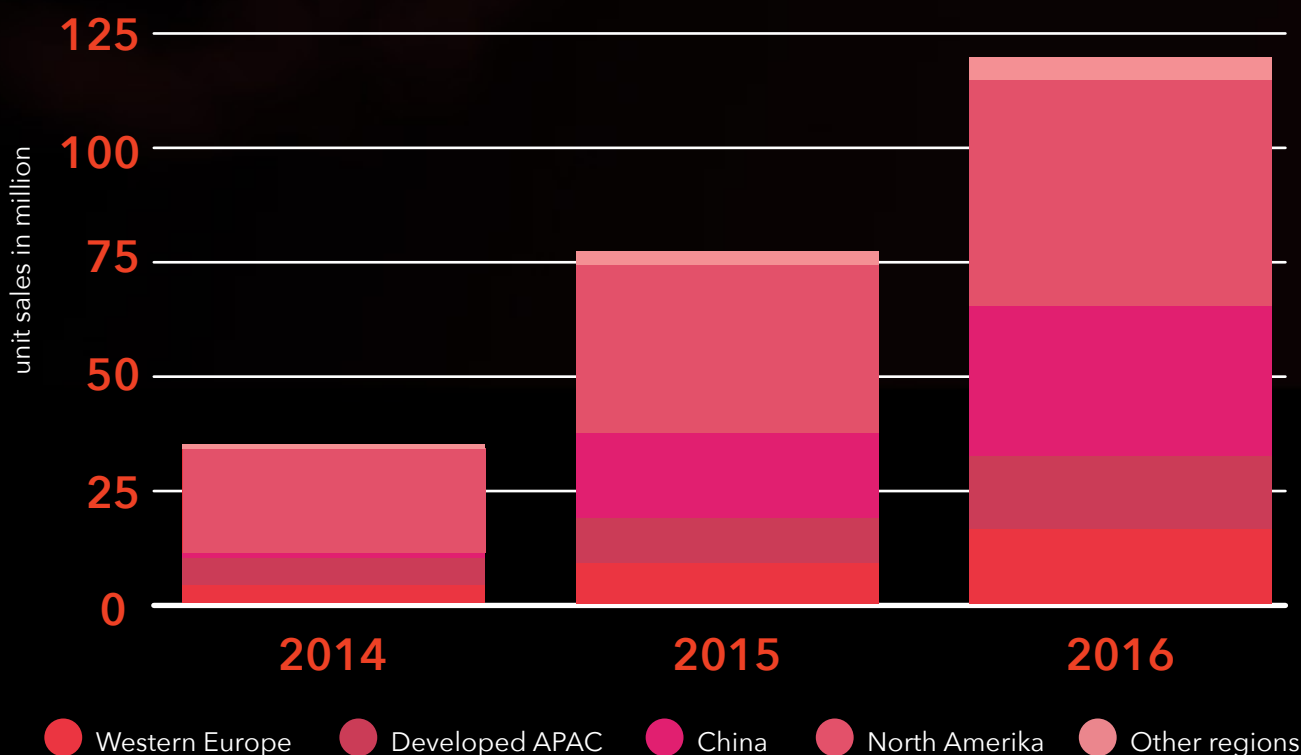
WEARABLE DEVICE SALES REVENUE WORLDWIDE FROM 2016 TO 2022



Forecasts show, that the revenue of the wearables is going to explode, with a revenue forecast of nearly 60 billion in 2021, which is nearly four times as much as in 2016. The analyst firm CSS Insights lists falling retail prices and emerging features as reasons for this increase.

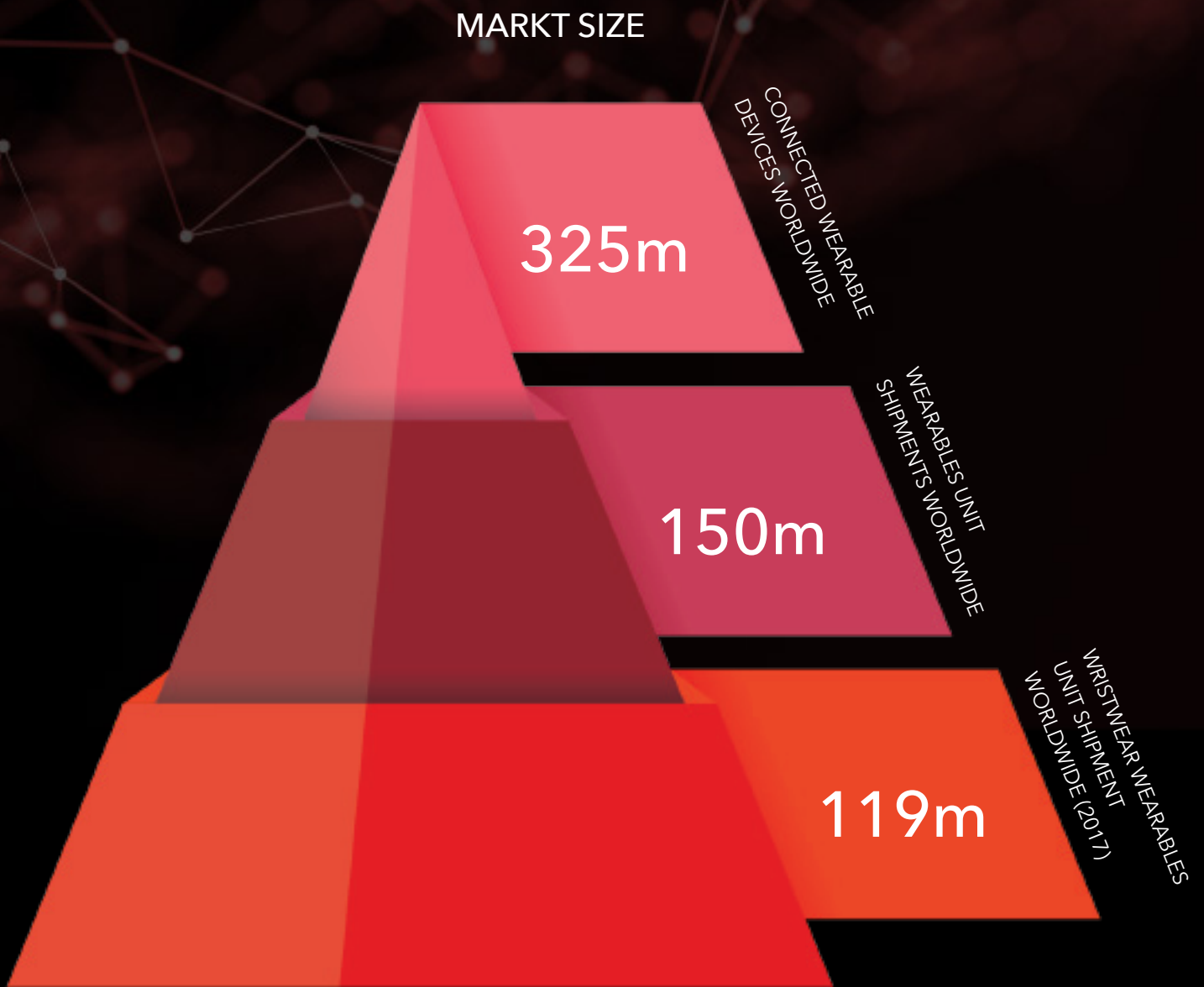
Apart from quantity, also the quality of the wearables has drastically improved. The sensors used in the technology are capable of detecting the number of steps that the individuals take each day, the amount of time they sleep as well as the number of hours they are seated. But with improved technology the features have evolved. Most devices support heart monitoring and breath rate. Even diabetes or cancer prevention will be made possible in the next three years. Aesthetically, these devices are also becoming more and more appealing. The suave designs in combination with the technology have endeared these devices to most users. They have a small form factor and they can be adopted as multiple different kinds of wearables.

### WEARABLES UNIT SALES WORLDWIDE FROM 2014 TO 2016, BY REGION



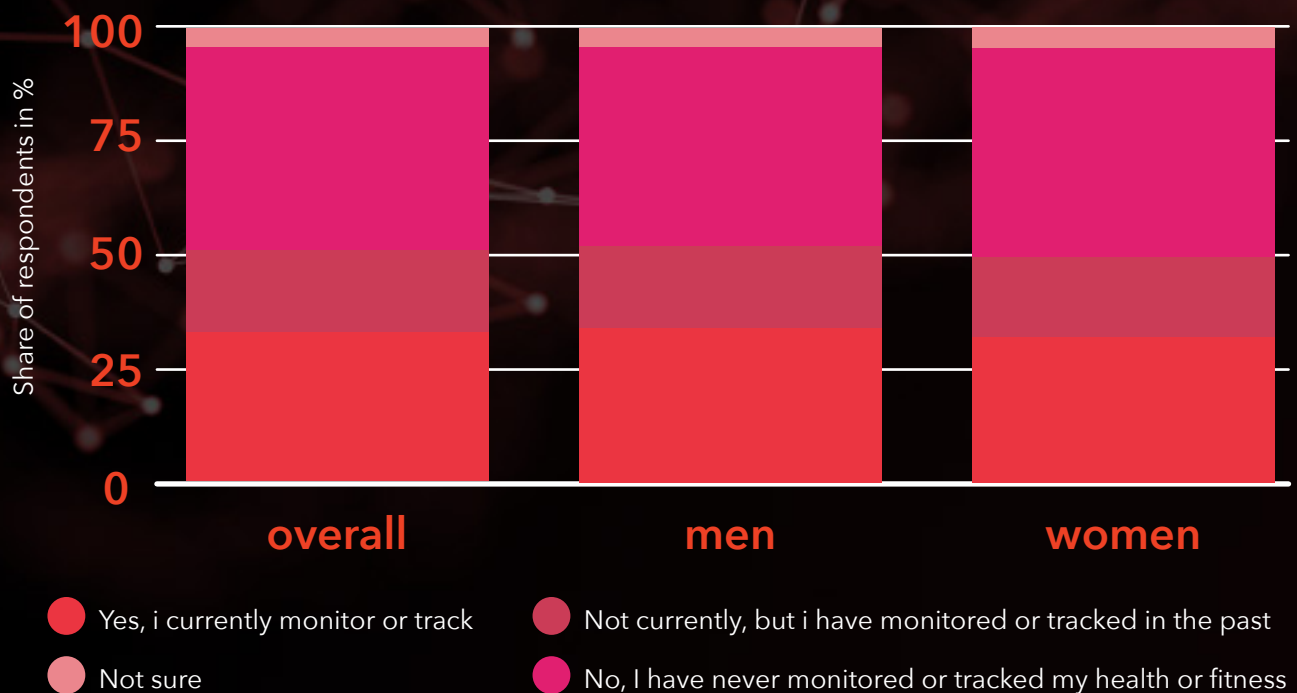
Watches and bracelets are the most popular, but there are others like rings and necklaces that are gaining popularity.

Probably the main driver of the growth of these wearables is the increased health awareness. More people are concerned about adopting a healthy lifestyle. They can be linked to mobile applications and calorie counters to give a more holistic health monitoring service.



## 1.2 OPPORTUNITY IN THE INDUSTRY

DO YOU CURRENTLY MONITOR OR TRACK YOUR HEALTH OR FITNESS USING AN ONLINE OR MOBILE APPLICATION OR THROUGH A FITNESS BAND, CLIP, OR SMARTWATCH?



Monitoring and recording ones health data has become its own industry. Manufacturers of wearables provide their own apps, while there are a number of third party apps which offer a wide range of additional or more specific measurements. Unfortunately there is no third party service which allows the monitoring of different devices or users at any given time.

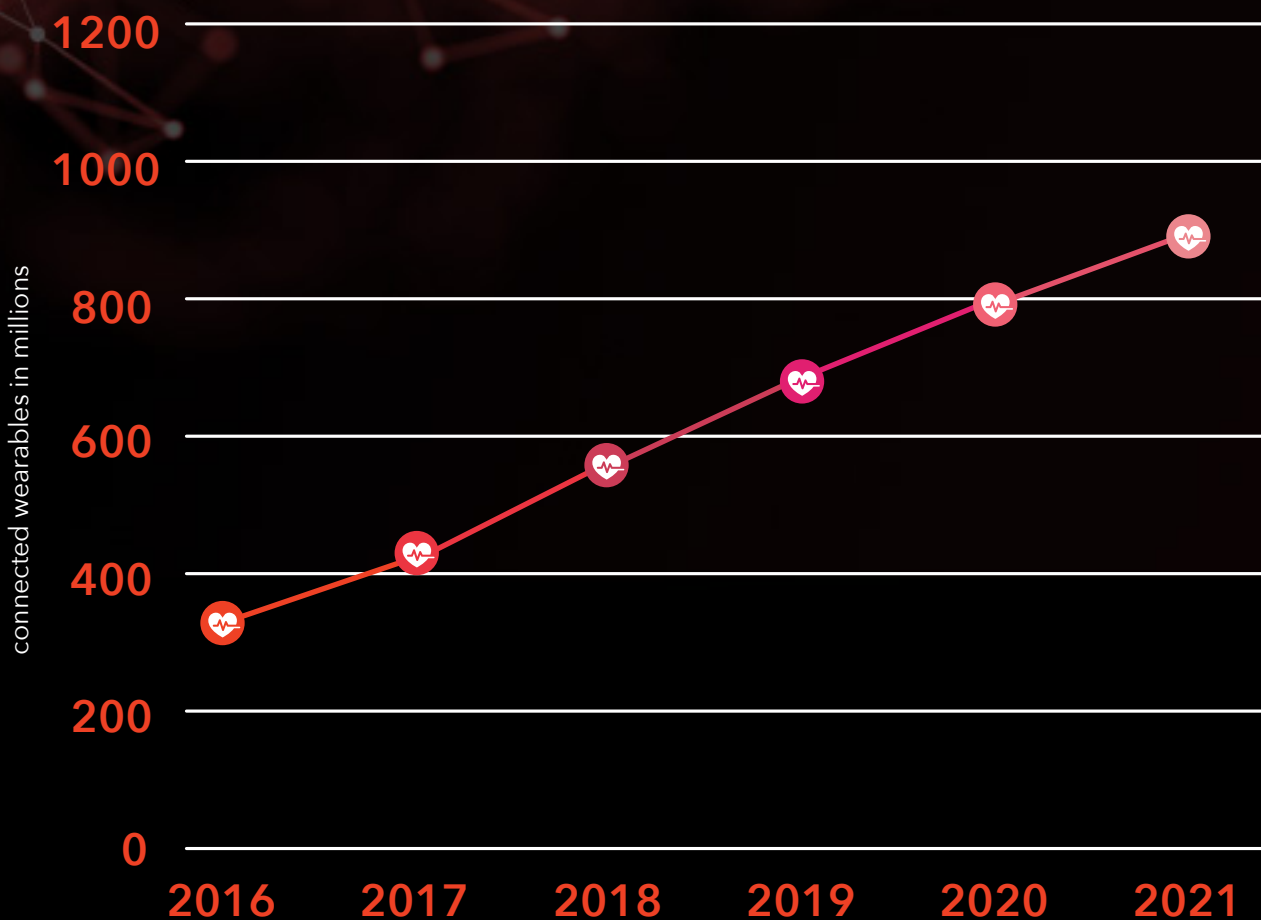


With the rising sales of wearable health tracking devices the opportunity to give users a chance to monitor, track, compare and store health data from one another will become more and more appealing.

Taking companies for example:

The biggest challenge is the burden that the rising healthcare costs have on firms in developed countries. Most countries have policies that require employers to cater to the healthcare needs of their employees. As the cost of healthcare increases, it is increasing the financial burden of these firms. In response, most large corporations have developed wellness programs that aim to improve the general health of employees while reducing lifestyle diseases that are caused by a sedentary lifestyle.

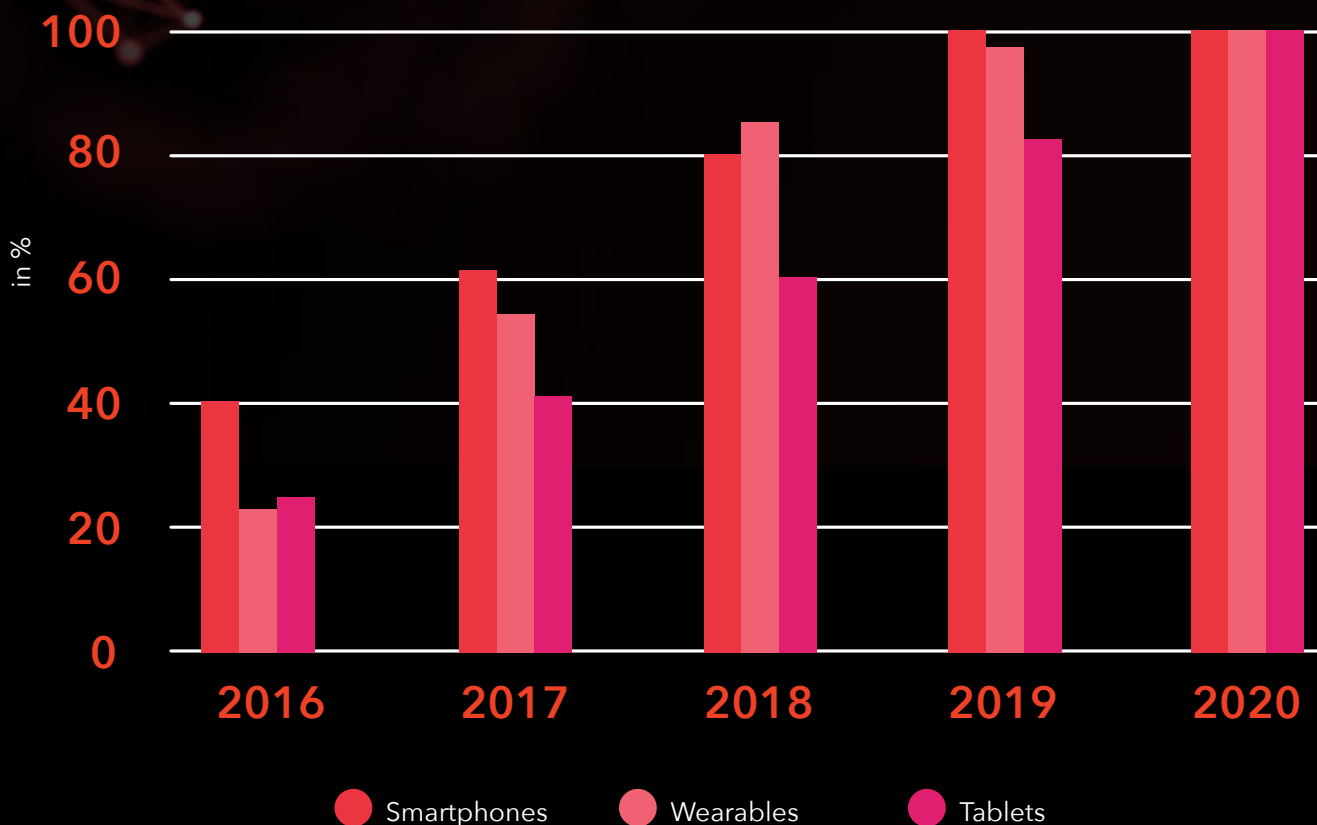
NUMBER OF CONNECTED WEARABLE DEVICES WORLDWIDE



Wearable technology can take this to the next level by offering real-time monitoring of the health of the users. The biggest challenge is data security and privacy in systems analyzing this data. There is a need for human sources to access this information in order to gain a benefit, while securing it to ensure that the information is not hacked. Fortunately, wearables only collect basic biometric data. They are non-intrusive and so in contrast to e.g. blood tests, there are no liability issues. A simple contractual agreement between the firm and employee gives human resources access to the wearable biometric data. All data is anonymous, so that the employee has the greatest benefit without the risk of the employer or third parties accessing person specific data.

## THE FUTURE OF MOBILE BIOMETRICS

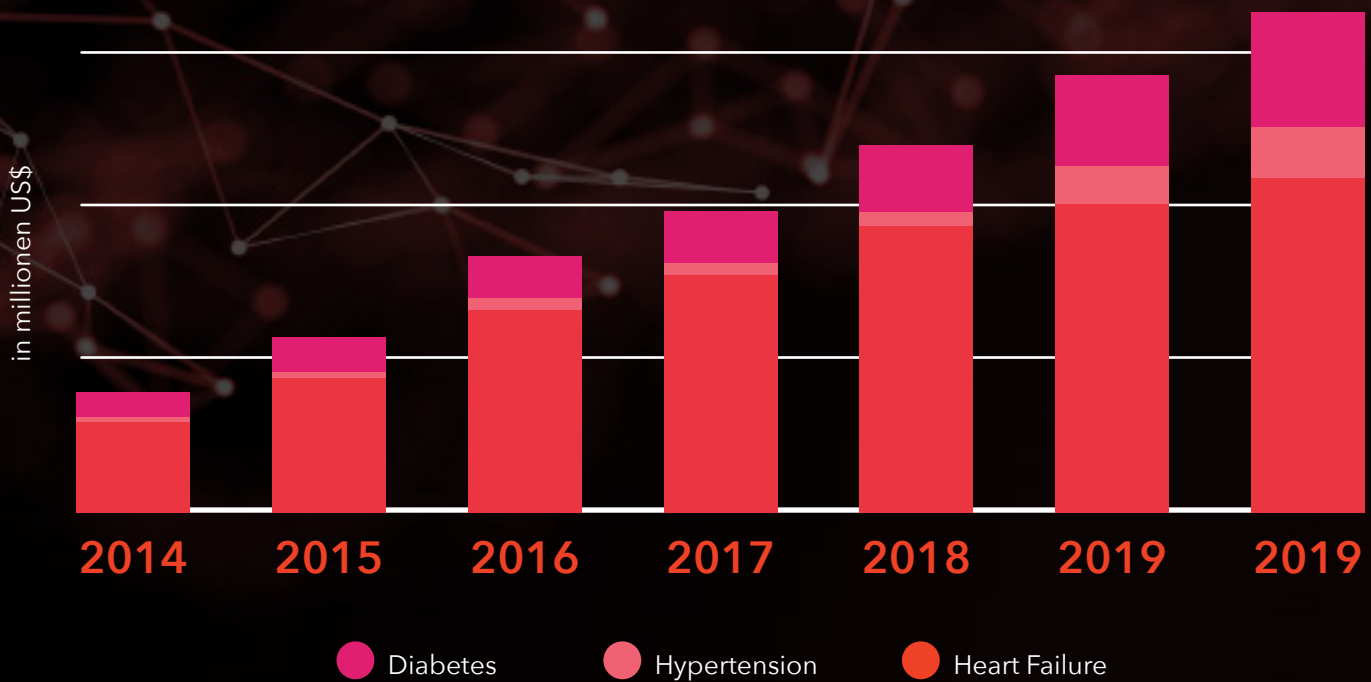
FORECAST SHARE OF DEVICES SOLD WORLDWIDE WITH BIOMETRIC TECHNOLOGY, BY TYPE



Additionally, LenusChain follows the principles of data self-sovereignty and data toxicity.

By implementing decentralized data storage and using the blockchain as an identity layer and data storage for employer relevant information. In the blockchain this data is secured using cryptographic encryption.

REVENUE IN THE „EHEALTH“ MARKET AMOUNTS TO US\$12,005M IN 2018.



## WEARABLES SHIFT TO NEW MARKETS AND APPLICATIONS

### **HEAD**

Immensive Infotainment, military apparel, helmets (workwear)

Hearing aids, headphones, ear-worn trackers

### **EAR**

### **EYES**

Smart eyewear, AR/VR, smart contact lenses

Smart clothing, chest straps, workwear, medical, skin patches, sports

### **BODY**

### **ARMS**

Medical smartwear, armworn trackers, skin patches, sports apparel

Smartwatches, wrist-worn fitness trackers

### **WRIST**

### **LEGS & FEET**

Smart footwear, medica devices, military, sports apparel

impantable, multilocation, adaptability by user or use case

### **OTHER**



## 2.0 THE LENUSCHAIN VALUE PROPOSITION

### 2.1 WHAT IS LENUSCHAIN?

LenusChain is a startup that will combine health data monitoring with blockchain technology and token economy. By downloading the LenusChain App users will be able to experience a new way of health data monitoring, tracking and storage. By granting other users access to the personal LenusChain data it will be possible to combine different devices on ones LensuChain dashboard. Users now have the possibility to create and manage health spaces for different groups. The use cases stretch from a corporate health space where employees can compare each others progress to amateur or professional sport clubs, families, nursing homes or hospitals. By creating different levels of data protection its possible to individually allow different health spaces to see different amounts of data.

Additionally LenusChain offers state-of-the-art preventive health care by using chat bots which react to specific changes in user behaviour. This can be disregarded or made use off, depending on the user itself. By offering guidance and solutions LenusChain will play its part in increasing life quality and sickness prevention by even offering direkt specialist treatment in the surrounding area of the user.

Finally we offer different health spaces the opportunity to create custom tokens. These tokens can be used to reward progress, increase motivation by generating a more competitive environment or simply to compare achieved results easily. These tokens are generated automatically by smart contracts. So if there is an improvement the user will be rewarded with customized tokens.

### 2.2 THE NEED FOR THE LENUSCHAIN SOLUTION

Every aspect of life is becoming more competitive. For example businesses are producing competing products and services. As a result, any competitive edge can help increase or maintain the market share. Employees are a competitive

edge for most businesses. When the employees are productive, they can provide high-quality services or / and goods giving an edge to the business. As a result, businesses are investing a lot in acquiring the best employees and keeping them in optimal condition.

But this aspect can be adapted to any branch of industry. Whether it's in businesses, amateur or professional sports clubs, recreational clubs, nursing homes, hospitals or any other way where people interact on a regular basis. People use health trackers, however, there is no possibility to manage or compare this data within each of these groups. LenusChain will offer exactly that!

## 2.3 VALUE PROPOSITION

LenusChain will create a blockchain-based system that can combine the monitoring and storing of users health and big data models to provide health spaces with an insightful way that they can improve according to their needs. The users also get access to individualized healthcare guidance that can help them resolve any physical and psychological issues. The platform will go as far as to recommend specialists to users who are dealing with health-related problems. The ingenuity of the platform is that it not only assesses the physical condition of users, it also assesses the psychological aspects. This is done by looking at behavioural patterns like sleep, elevated heart rates to determine whether they are suffering from stress, insomnia or other behavioural problems that may have an impact on their quality of work.

### 2.3.1 EMPLOYERS / EMPLOYEES / CORPORATE WELLNESS

Firms will be able to assess the wellness of their employees. This results in some inherent benefits. They include:

- 📍 Early detection of problems can help solve physical and psychological problems. The earlier these problems are solved, the lower the impact on the bottom-line of the business.
- 📍 Firms will also be able to get access to healthcare data that can be used to assess the effectiveness of the health and wellness programs. Changes can be made in cases where there is no tangible improvement in employee wellness.
- 📍 An increase in employee efficiency. When the employees are healthy, they are less likely to suffer from lethargy. This increases their efficiency in completion of tasks.
- 📍 A healthy workforce is also more likely to have increased productivity. This will positively improve the bottom-line by increasing the revenue generated.
- 📍 Using the platform will also increase employee job satisfaction and loyalty. When employees feel that their firm is interested in their wellbeing, they are less likely to leave. This reduces employee turnover and the finances used to train new employees.

"It's amazing to learn that 55% of workers identified a workplace wellness program as an instrument in improving their overall well-being. In fact it equates to \$250 million in savings in lowered health costs and a 50% reduction in high blood pressure among employees." according to Dr. Roger Sahoury, author of *Gladiator's Guide to Corporate Health & Wealth*.

The platform is not one-sided. It also offers employees benefits that can help them personally and professionally. They include:

- ❶ Fast identification and resolution of psychological issues. The earlier psychological issues are identified, the easier it is to resolve them. Analysis of the health data from the wearables can identify signs of psychological problems.
- ❷ Improved physical performance. One of the leading causes of obesity is the sedentary lifestyle that most people have in the workplace. Wearable technology combined with corporate wellness programs can reduce these problems leading to better physical health.
- ❸ LenusChain will create a token economy that can provide additional benefits based on the employee loyalty and wellness incentives that firms will incorporate into their strategies.
- ❹ Wearables can also help minimise the risks of heart attacks or other fatal diseases.

The LenusChain platform has benefits for both firms and their workforce while ensuring that the health data that is transmitted is protected from third parties using the blockchain technology. This is an opportunity for LenusChain to become the forerunner of this market in the healthcare industry.

### 2.3.2 SPORTS CLUBS

Amateur sports clubs can create a health space for themselves to track progress of e.g. ran kilometres in each training session. By that the trainer will be able to evaluate the team progress as a whole as well as individual players. If they wish the information can be made accessible to all participating users in order to in-



crease competitiveness and motivation.

This can be adapted to any amateur or professional sports club.

### 2.3.3 FAMILIES

LenusChain will let you create a health space for your family and loved ones.

Parents are now able to get an impression of their kids health habits. When using wearables with GPS tracking Lenus will also offer security and safety measures such as geofencing in order to prevent any harm being done.

Another important aspect is the health data monitoring of the elderly. By using LenusChain users in a health space can be alerted by push message if there are significant changes in the vital signs of an elderly user. So whether families are on holiday or simply not on sight, peace of mind is guaranteed as rescue could be alerted swiftly in case of an emergency.

AFFLUENT	Household Income: <b>22%</b> higher than all households Personal Income: <b>16%</b> higher than the average
FOCUSED ON FITNESS	<b>59%</b> say exercise is an important part of regular routine <b>37%</b> enjoy though physical activity <b>25%</b> go to the gym twice a week <b>20%</b> say they play a lot of sport
IMAGE-CONCIOUS	<b>41%</b> take care in their appearance all times <b>40%</b> say their prefer their house to look stylish <b>21%</b> have to have the latest gadgets <b>20%</b> want to stand out in appearance/fashion and willing to pay more to do so
FOODIES	<b>66%</b> like to try new types of food <b>27%</b> call themselves food connoisseurs <b>23%</b> try to dine out at least once a week

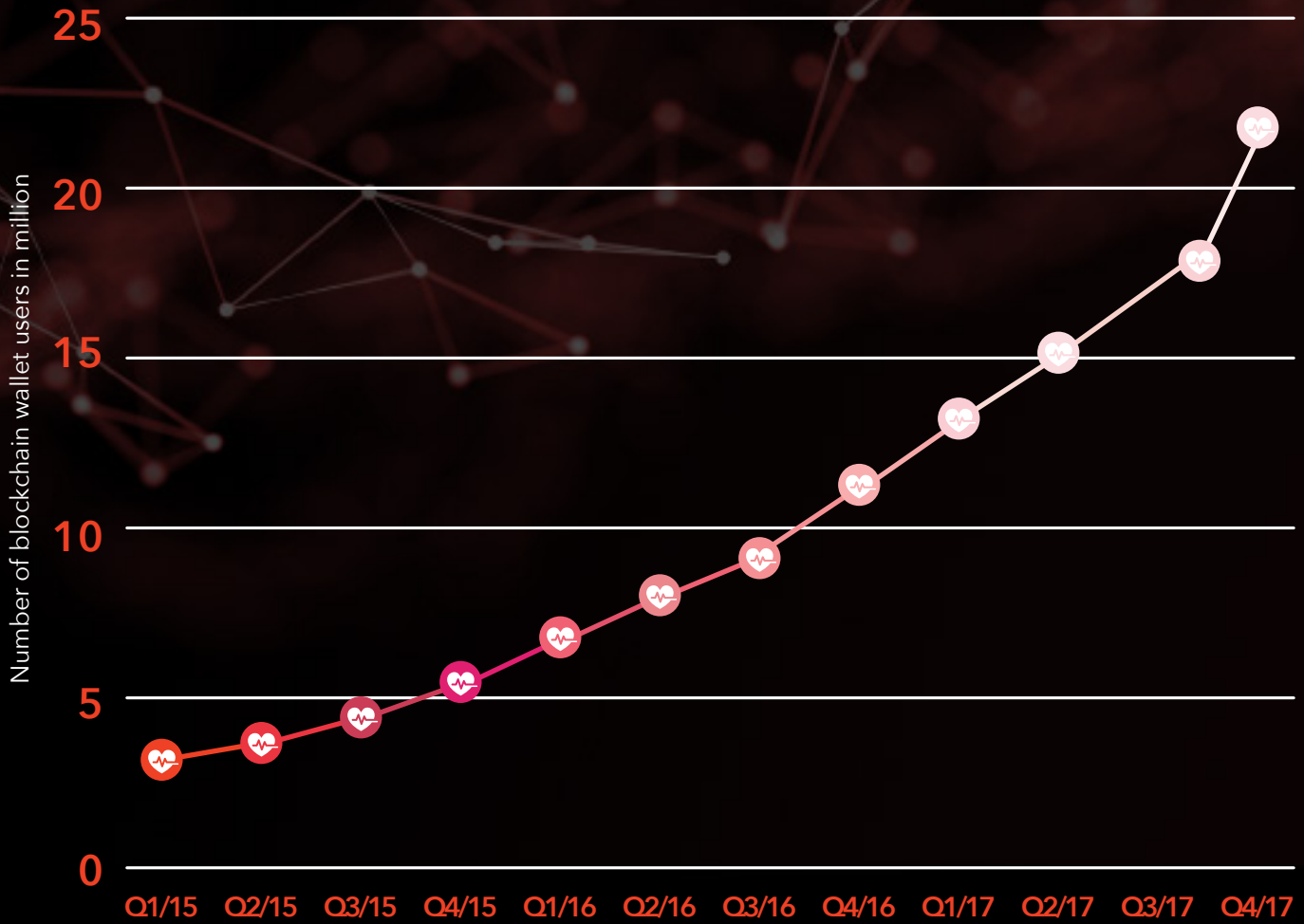
#### 2.3.4 NURSING HOMES

By creating a health space for a nursing homes the operating business can manage the health data and vital signs conveniently over the Lenus dashboard. As with the family use case, the nurses can be alerted if there are significant changes in vital signs allowing them to work more effectively and efficiently.

These are only a fraction of the industries and branches LensuChain can be used in.

# 3.0 TECHNICAL ASPECTS

NUMBER OF BLOCKCHAIN WALLET USERS WORLDWIDE FROM 1ST QUARTER 2015 TO 4TH QUARTER 2017



## 3.1 HOW DOES IT WORK?

LenusChain uses the blockchain technology for storing the analysis of health data and for bonus programs in the token economy. LenusChain allows cross-platform wearables to link to the LenusChain App.

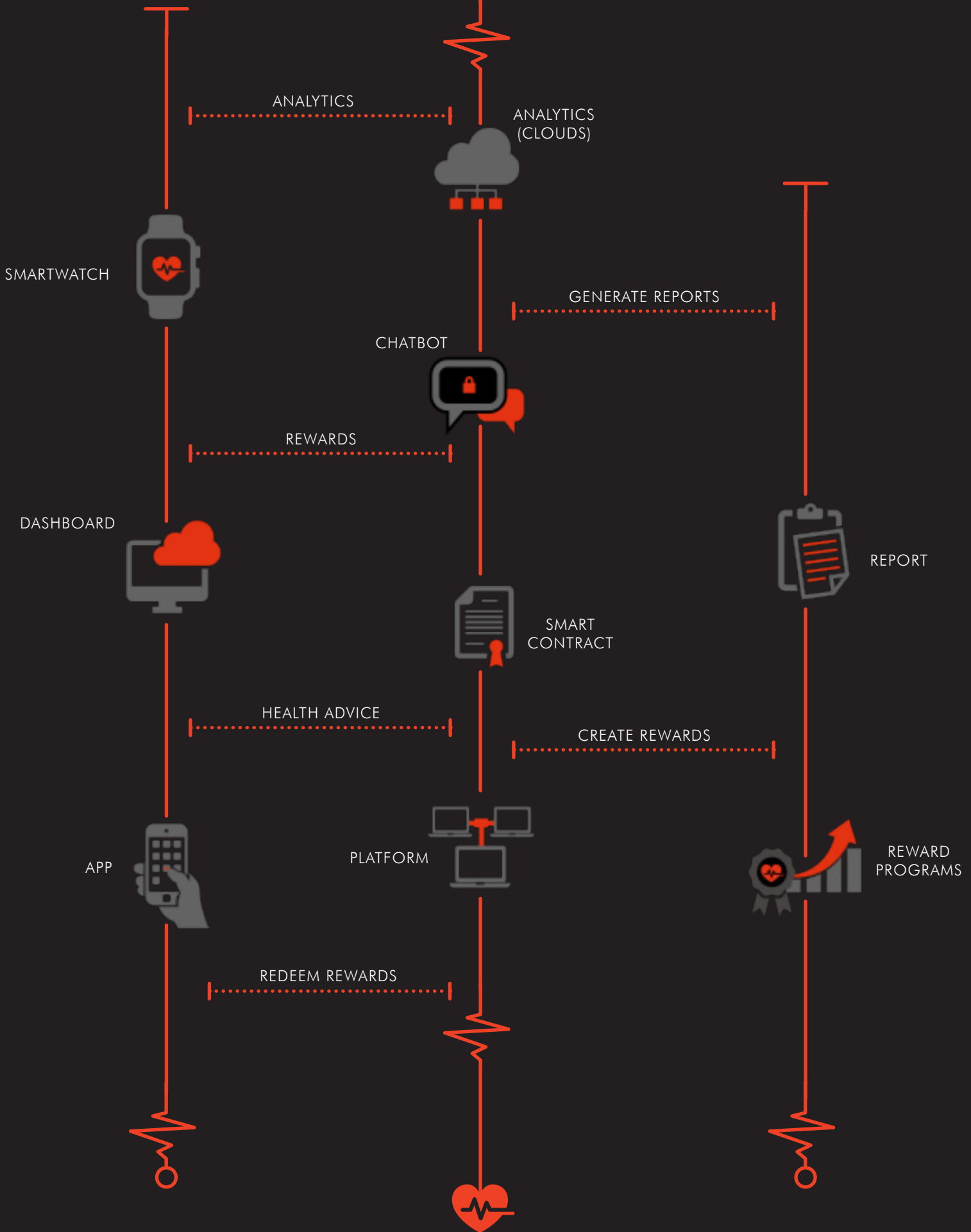
The user health data will be uploaded temporarily at predetermined points in time. The information uploaded will provide a detailed summary of the indicators of the sleep quality, the vital signs, sports data and other important health data collected from the wearables. The algorithms will analyse the data to provide a detailed result of the users wellness for that day. The information will be accumulated and every week a detailed report will be sent to the health space administrator. The information can be used to assess the mental and physical health of the overall health space users. Any irregularities will be included in the weekly report to ensure that the administrator is aware of any trends.

Based on the smart contract created between LenusChain and the health space, the user will receive rewards for maintaining or improving their overall health or wellness. This may be walking a certain number of steps or completing specific exercises in a predetermined period. The tokens will act as an incentive.

If the daily analysis notices that there may be a problem or a deviation from the average users results, an automated ChatBot will contact the user via the LenusChain mobile application to inform them that there were some irregularities identified. The ChatBot will recommend further diagnostic advice from a healthcare practitioner. If the user does not have a specialist they can visit, the ChatBot will recommend one of the many specialists included in the database. If the problem is minor or behavioural, the ChatBot will provide advice on how best to prevent further problems by encouraging behavioural changes.



# LENUSCHAIN



Some of them include:

More walks if the user is too sedentary

More hours of rest if the user seems to be suffering from sleep deprivation

A change of diet if there is an increase in the weight

One important feature is data sovereignty. Most developed countries are implementing or have regulations that ensure that any data collected is not misused especially when it comes to user data. In order to adhere to these regulations, LenusChain will ensure that the users approve any use of data. Also, the data is stored decentralized on each mobile phone and only uploaded to analytics temporarily. When registering for the sight, they will be asked to agree to the terms and conditions. One of these will be the use of the data by LenusChain in the creation of Big Data of user health and wellness.

### 3.2 TECHNICAL FEATURES

As a platform, LenusChain will be based on the Ethereum blockchain and the operations will be executed by the Ethereum Virtual Machine (EVM). The platform will be coded using Solidity programming language. Additionally, the platform will rely on KECCAK-256 hash functions, which are native to the Ethereum platform. As a result, the API clusters will have low latency. This means that large volumes of information can be simultaneously sent to the blockchain without any bottlenecks. Additionally, the transmission speeds will be fast enough for it to seem like it is real time.

The data sovereignty will be guaranteed by inbuilt algorithms that ensure employees are informed of how their data will be used on the platform. The platform will rely on the LenusChain token (BPM). This is an ERC20 token that will be used to reward the users when they complete certain milestones. This creates a demand for the tokens that will gradually increase the value as more health spaces and users join the platform. The tokens will be safely held in user wallets that will be created when they join the platform.

The smart contracts will be customizable based on the needs of each health space. This means that every health space will be able to integrate the platform into their existing programs. Any changes can also be made in conjunction with the LenusChain development team to add more features or improve the program.

The ChatBot will be programmed to initiate contact with the users whenever there is a deviation from the normal results. The ChatBot can provide behavioural suggestions to improve wellness in simple cases, but it can also prompt the user to see a specialist when the data indicates are a greater issue. Finally, the platform has inbuilt analytics system that coalesces the individual user data to create a larger dataset that can be analysed from an organisational perspective, an industry perspective or a country perspective. This Big Data will be analysed by algorithms, that run in a cloud which only holds the data temporarily, to prevent the data from being breached.

As a blockchain-based platform, the data in the platform will be cryptographically encrypted and distributed to make sure that the data is immutable while secure. The names of the users and health spaces will be made confidential by changing them with pseudonyms. This prevents internal and external prying of the sensitive data transmitted.

# 4.0 ROADMAP

CONCEPTION PHASE



END CROWDSALE



START CROWDSALE



DEVELOPMENT

START PROTOTYPING



LenusChain has been conceptualised. Currently, the business idea is being fine-tuned and a team is being assembled with the right experience and technical knowledge to execute it. Additionally, some advisors will be brought onboard to help with the platform development, marketing and business model creation. The next stage will be the test phase where an alpha version of the smart contracts will be created and tested. These tests will allow the initial debugging through a bounty program. This will be followed by a Pre-ICO where a limited number of



tokens will be distributed to some investors. An early bird discount will be offered to the investors who join at this stage.

Shortly after the Pre-ICO, there will be a main ICO segmented into two phases. Even though the bonuses will not be as high as those in the Pre-ICO, there will be early bird discounts in the ICO. They will reduce each week. Once the ICO period is over, the funds raised will be used for development of the platform, creation of partnerships with wearable manufacturers and marketing of the platform. The final phase is the launch where firms will be approached. LenusChain tokens will also be listed on major exchanges around the world (Bittrex, Bitfinex, Binance).

# 5.0 ORGANIZATIONAL STRUCTURE

## 5.1 TEAM

The team is made up of like-minded individuals who want to revolutionise corporate wellness using wearable technology.

**The team members include:**



### FELIX SEILER

While gaining his BA Business Studies degree at the University of Portsmouth, UK, Felix conducted different technical internships in London, Dubai and Graz. After having led the Business Development Department of a StartUp in Munich Felix founded his first IT company which is still running and offering governments aid when it comes to digitalization of processes. Since 06/17 Felix has taken a great interest in the blockchain technology diving deep into the possibilities this technical advance will offer. He is now one of the founders of LenusChain committing fully. At LenusChain he has the role of CEO.

## METE KÜCÜK

Mete Küçük has worked in the marketing sector for over a decade. Having completed a management program at Steinbeis Hochschule in Berlin he led several successful campaigns at different agencies. He then founded his first IT company together with Felix Seiler. Of course Mete will be leading all marketing and pr matters.



## REBECCA WALD

Rebecca studied Information Systems in Bamberg. Since then she has worked as an IT-Consultant in the Insurance Sector. She is specialized in E-Health projects which use blockchain technology, decentralized storage and end-to-end encryption. At LenusChain she will be leading all technological topics while aligning them with the business requirements.



## MORITZ NASEMANN

Moritz is studying medicine at the Ludwig-Maximilians-University in Munich. Additionally he is an upcoming blogger, vlogger and influencer. With his many social media channels he offers advice and tips on general health and studying medicine. Moritz will be leading the medical department at Lenus guaranteeing that the Lenus App will only provide the most sophisticated and innovative data to our users.





## RICCARDO WALTHER

Riccardo is the ICO and Blockchain expert at LenusChain. He has been part of the crypto scene since 2013 developing a deep understanding of blockchain technology, cryptocurrency and ICOs. He has led and planned several successful ICOs making him the perfect fit for Lenus. His exceptional knowledge will guarantee a smooth and successful ICO.

## JOHN MUNOZ

Graduate of the University TU Munich `14 in economic IT science. Web developer and SEO freelancer (2013-2015) in Digital Marketing. Founder of Palacios Internet & Marketing GmbH (2015). At LenusChain responsible for IT and systems.



### **Legal and compliance setup**

The legal set up is accompanied by the renowned attorneys „Winheller - RA Benjamin Krischbaum“ (also accompanied IOTA) in Berlin, Germany.

The LenusChain GmbH will be based in Zug, Switzerland.

### **Technological setup**

The technological setup will be headed by Riccardo who will work with Rebecca Wald and John Munoz to ensure that every aspect of the project is evolving swiftly. John will concentrate on mobile development and cross-platform support while Wald will work in blockchain development.



## Funding

Initial seed money in excess of 110.000€ has been raised by the founding team already. This will be used to get the project off the ground before seeking to crowdfund through the ICO.

# 7.0 ICO DISTRIBUTION AND FUND ALLOCATION

## 7.1 ICO GOALS

The total supply of BPM tokens will be 50,000,000. 75 percent of the tokens will be released to the public through the token sales while 25 percent will be reserved and held in escrow. The Hard Cap is set at 15.000.000 \$ while the soft cap is at 750.000 \$ to launch the platform. The value of the tokens will be 0.4 \$ for each BPM token. The Pre-ICO will last only seven days while the ICO will last for 42 days.

## 7.2 ICO PARTICULARS

**TOKEN NAME:** LenusChain Token (BPM)

**TOKEN SYMBOL:** BPM

**DECIMAL:** 6

**TOTAL SUPPLY:** 50.000.000 BPM

**EFFECTIVE SUPPLY:** 50.000.000 BPM

**RETAIN:** 12.500.000 BPM

**HARD CAP:** 15.000.000 \$

**SOFT CAP:** 750.000 \$

**PRICE/TOKEN:** 0.4 \$

**PRE-ICO:** 7 Days 30% Bonus

**MAIN ICO:** 42 Days

7 Days 20% Bonus

7 Days 10% Bonus

14 Days 15% Bonus

14 Days 0% Bonus



# 7.3 FUND ALLOCATION

NUMBER OF BLOCKCHAIN WALLET USERS WORLDWIDE FROM 1ST QUARTER 2015 TO 4TH QUARTER 2017

