



## Research report

Comparative research on (e-)bicycle training in the partner countries and the European legislation

Syntra West vzw, ETRA – BE

Innovam, Pro Work – NL

Ekolo.CZ – CZ

CELF – DK

Vilnius Jeruzales labour market training center - LT



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## 1 Introduction

At the end of the 1990's, the electric bike was launched on the market in Europe. It became more and more popular with about 750,000 sales in 2009 and an estimated 1,000,000 sales throughout Europe in 2010. The electric bike assures mobility of elderly people and people with health problems however car drivers, parents, shoppers, tourists are also attracted to it.

Using the electric bike has its positive effects on mobility, health and environment. It makes people drive longer distances, leads to a healthy/healthier body weight and helps to decrease CO2 emissions.

As the electric bike has enormous potential in the European Union, dealers, manufacturers, importers and bicycle repairers play a crucial role in informing people on electric bicycles and persuading them of the advantages of this innovation. Nowadays, there is dissatisfaction amongst e-bike users related to range, performance, weight, price, servicing and repair costs. To avoid this dissatisfaction, the products and their range need to be diversified following the different user categories. Dealers and bike repairers should be able to advise the client on the most appropriate type of e-bike. Customers need to be optimally informed not only on the actual range of their vehicle but also on how to manage their energy use and charging batteries. Consumers should be informed on the characteristics of the vehicles as well as on the related price/quality ratio.

Currently, dealers, importers and bike repairers lack knowledge and expertise to provide the above mentioned service to their (potential) clients. In a partnership project, 5 countries have been brought together (BE, CZ, DK, LT and NL) that are closely cooperating in working on this issue by providing state-of-the-art training on e-bikes for dealers and bike repairers.

## 2 The Project

### 2.1 Aims and objectives

The concrete objective of the partnership is to gain insight in legislation, in technical and entrepreneurial competences for the bike dealers and repairers, in existing and successful training initiatives and approaches regarding e-bike selling and repairing in order to be able to adjust, refine and to transfer training contents and methodologies. Transnational train-the-trainer activities, study visits and expert work meetings will be organized in order to achieve the above objective.

The following subjects are tackled during the project:

Checking the European legislation framework connected to the use and the selling of the electric bicycle

Conducting a comparative research on and an inventory of bicycle training with a special focus on the e-bike training and the use of e-bikes in the partner countries

Inventory of and comparison of existing competence profiles for bike dealers and bike repairers with specific competences regarding the reparation and the selling of e-bikes

### 2.2 Project partners

#### 2.2.1 Syntra West – Belgium

Syntra West is a non-profit organisation set up in 1960 in the Province of West-Flanders, Belgium which is provider of 3,5 million training hours per year for about 55,000 trainees. Syntra West works with 2,000 part-time trainers and a staff of 220 persons. There are 6 training campuses.

Syntra West's target groups are company managers, senior staff and employees of small and medium-sized companies.

Next to this, Syntra West also makes its trainings available towards non-profit organisations and public enterprises.

Syntra West offers a range of courses, split up into 22 sectors. This range consists of a large variety of technical trainings (basic and advanced), entrepreneurial trainings (to start up your own company and for the self-employed), managerial trainings (for managers in SME's), informatics trainings and language trainings.

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### 2.2.2 ETRA – Belgium

ETRA is the European trade association for bicycle, moped and motorcycle dealers. ETRA supports national trade associations in the development and the improvement of training for two-wheel dealers and their staff. Some member states offer a well-developed training scheme for bicycle dealers, whereas in other member states training is in a startup phase. Together with different European partners, ETRA works towards a project in which training in these latter countries is developed and/or improved by means of transfer of know-how. Furthermore, ETRA has exhaustive knowledge on electric bicycles resulting from its partnership in the EACI funded PRESTO project. In PRESTO, ETRA is responsible for the pillar electric bicycles. This included the publication of a Policy Guide on electric bicycles, which is the basis for dealer training on electric bicycles.

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### 2.2.3 Innovam – the Netherlands

The Innovam Group is the leading training and assessment center in the Netherlands for the automotive and two-wheeler industry. For more than 60 years Innovam has been the main provider of both technical and non-technical after sales, sales & management and sales product launch training and education programs in the branch. Our main objectives are: provide knowledge in all possible ways, to employers and employees; improve craftsmanship and skills by training and a continuous development of companies, show the newest developments and innovations, create awareness and provide an accurate knowledge base, inspire and use state of the art training centres, enthusiastic trainers and modern methodologies that are always based on a blended learning approach.

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### 2.2.4 Pro Work – the Netherlands

Pro Work promotes career development for people with a distance to the labour market, both on national and international level, as far as they require education, coaching and guidance. In these fields Pro Work has built up a broad experience and works from and with an extensive network of experts. Many activities Pro Work are related to competence development and the development of competence based training & learning. For this purpose Pro Work has, among other things, been involved in the development of a knowledge center and the development of a complete digital competence register with all possible education/courses (formal and sectorial recognized).

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### 2.2.5 CELF – Denmark

CELF is a regional public training centre offering a wide range of upper secondary (technical and commercial), vocational training courses and adult training courses. The institution employs 425 persons and train more than 3000 students/year. The annual turnover amounts to €40 million.

The Institution provides student training in a wide scope of mechanical trade domains. Additionally we conduct continuing mechanical training for same trades:

- Personal Car, Region of Zealand, Denmark
- Trucks, Denmark
- Boat Mechanic, Denmark
- Inspection Training, Denmark
- Conduct Tool and Repair Control for automobile companies and military, Denmark
- Bicycle, Moped & Motorcycle Trade, Denmark
- Bicycle Merchant Certification, Denmark

The institution formulates new regulative notices for Bicycle, Moped & Motorcycle domains. Additionally conducts new continual education and courses for the trade. The institution is granted permit to conduct continual trade education domestically.

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### 2.2.6 Ekolo.CZ – Czech Republic

EKOLO.CZ has been established in 2008 to promote electric vehicles. The company is designing, manufacturing and bringing to market electric bicycles, fully according newest EPAC standards in the Czech Republic and Slovakia. Ekolo.CZ stands for educational and training activities in the clean city mobility.

Ekolo.cz offers different models of power-assisted bicycles under its own brand AGOGS electric bicycles, which is currently expanding in several EU countries.

Ekolo.cz operates the AGOGS flagship showroom in the center of Prague, which becomes the one-stop-shop for the electric mobility on bicycle education and testing. E-bike rentals and guided try-rides are offered, as well as programs for schools and university fellowships.

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### 2.2.7 Vilnius Jeruzales labour market training center – Lithuania

PO Vilnius Jeruzales LMTC is a non-profit educational organization specialized in vocational training, it was established in 1958, nowadays trainings developed in construction and transport sectors. PO Vilnius Jeruzales LMTC is part of the Lithuanian Labour Market Training system, which belongs to the Lithuanian Ministry of Education and Science since 2010. PO Vilnius Jeruzales LMTC's main objective is to provide high quality vocational training for adults: senior staff, employees of small and medium-sized companies, unemployed. During one year PO Vilnius Jeruzales LMTC provides 1 million training hours for about ca. 4,000 trainees.

PO Vilnius Jeruzales LMTC offers a range of courses, split up into construction and transport sectors using enthusiastic trainers and modern methodologies.

PO Vilnius Jeruzales LMTC's main activities are:

- Provide knowledge in all possible ways, to employers and employees
- Improve craftsmanship and skills by training and a continuous development of companies and their employees
- Show the newest developments and innovations
- Create awareness and provide an accurate knowledge base

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## 3 Country information

### 3.1 Country facts Belgium

#### 3.1.1 Use of the bike

After the car, the bicycle is the most used means of transport in Flanders. Within the European Union, the Flemish population uses the bike the most, after the Danish and the Dutch. We may assume that about 14% of the daily transport in Flanders is done by bike. Biking belongs, in some regions more than others, to popular culture, with a history that goes back to the first half of the 20th century. Over 60% of households in Flanders possess two or more bikes.

The bike is mainly used for short distances up to 7.5 km. However, one also still takes the car for those short distances in 55% of the cases. Because the majority of journeys falls within this distance class, the bicycle use still has a considerable growth potential.

The bicycle is the most common means of transport for journeys to and from school. Half of the Flemish students that live within a range of 7.5 km from school use the bike.

Also a lot of commuting trips are shorter than 7.5 km. Nevertheless, the proportion of cycling here is significantly smaller. On average 24% of the employees who live within 7.5 km from work use their bike. There are however large regional differences.

For shopping traffic, the bike is used in almost 14% of the cases.

The highest percentage of cyclists is found amongst youngsters (13-24 year). These youngsters later on change to using the car.

The popularity of bikes is growing amongst 65+, amongst others because of the grown investments in bike tourism.

Finally, the importance of pre- and post-public transportation of the bike is also rising. This has everything to do with the 'bikepoints' at train stations.

#### 3.1.2 Sales numbers

In 2011 there were approximately 7.1 million bikes (children's bikes not included) in Belgium. The vast majority is used in Flanders 5.3 million. Which means that average one family owns two bikes.

The number has increased with 1 million in the last 10 years according to the FOD Economie (Federal Government Service Economy).

There are no exact numbers on e-bikes. There however has been a breakthrough since 2009 in sales rates. Some dealers reported an increase of about 400%.

Between 400.000 and 500.000 new bikes are sold every year, 20 to 40% of which are e-bikes.

#### 3.1.3 The electric bike market

Bike dealers state that there has been an explosion in sales of electric bicycles. They sell four to five times more e-bikes than the year before. In the early stages mostly elderly people purchased an e-bike, whilst nowadays more and more younger and working people buy an e-bike for commuting to work.

##### 3.1.3.1 Number of dealers

In 2009 there were 19 bike manufacturers in Belgium.

There is no exact information on the numbers of dealers, a search results in a list of 1331 bicycle shops in Flanders.

##### 3.1.3.2 Number of employees

There are no figures on this.

### 3.1.4 Access to the profession

People who want to start their own business as a self-employed have to fulfill, in Belgium, some establishment requirements. They have to be able to proof their basic business management knowledge.

Next to this general and common business management training, for some professions, the so-called regulated professions, additional conditions apply. For this professions, of which bike repairer is one, you have to be able to proof professional experience and knowledge.

The following means are accepted as proof:

1° One year experience as a bicycle repairer in main or as full-time employee) ; or three years experience as part-time employee.

2° following documents issued before October 1, 2007 by:

a) full-time secondary education and part-time vocational education after completion of at least the second year of the second grade;

b) the continuing education or adult education which level at least equivalent to the second stage of full-time secondary education;

c) work-linked training, self-employed and SMEs;

3 ° the following certificates from the central examination boards of the Federal Public Service Economy, SMEs, Self-employed and Energy, issued before 1 September 2007:

a) bicycle mechanic, the professional activities of the bicycle;

b) moped mechanic of motorcycle mechanic, for a garage-repairer, second-hand motor vehicle dealer or carrossier-repairer, for intersectoral professional mentioned in Article 5;

c) moped mechanic, motorcycle mechanic or garage owner-repairman, for the professional sector of motor vehicles with a maximum mass up to 3.5 tonnes;

d) a garage-repairer for the professional sector of the motor vehicles with a maximum mass exceeding 3.5 tonnes.

### 3.1.5 Organisation of training

Syntra Vlaanderen - entrepreneurial training

Certificate: bicycle repairer

Certificate: bicycle technician

Certificate: bicycle dealer

## 3.2 Country facts the Netherlands

### 3.2.1 Use of the bike

For the first time in 2013 the train is passed by the bike. In 2011 the transport performance of the bike in our country grew to 15 billion kilometers, 1.3 billion more than in 2010. The distance traveled by the train fell during that period by 0.3 billion to 13.8 kilometers, according to the latest CBS figures.

The bike is now firmly in second place behind the car (140.1 billion. Miles). In particular, the use of bicycles in the age group 15 years and older between 60 and 65 years saw above average increases. In children, this development been visible. The increased bicycle use among seniors is undoubtedly due to the popular E-bike. In 2010 the total ownership of bicycles : was 18 mln units.

### 3.2.2 Sales numbers

In front of you is the 2011/2012 'Two-wheeler' mobility in figures. This is a publication of the BOVAG-RAI Foundation and provides an accurate picture of the Dutch market for bicycles.

#### 2010:

Sales of new bicycles : € 884.326.000,-

Sales of new bicycles : 1.215.000 units

City bicycles : 648.000 units

Hybride bicycles : 117.000 units

Child bicycles : 172.000 units

Electrical bicycles : 166.000 units



Other (incl. MTB, Race , folding) bicycles : 112.000 units

Bicycles trade : 73% (95% for Electrical bicycles)

Trade strange : 27% (5% for Electrical bicycles)

Average purchase price : € 728,-

Average purchase price for bicycles trade : € 920,-

### 3.2.3 The electric bike market

#### 2010:

Electrical bicycles : 166.000 units

#### User :

64,5% women

30,6% men and

5,0% unknown

#### Age :

65 years and older : 42,5%

50 – 64 years : 38,6%

40 – 49 years : 10,5%

30 – 39 years : 2,4%

20 – 29 years : 0,8%

12 – 19 years : 0%

0 – 11 years : 0%

Unknown : 5,3%

Region	Electrical bicycles	City bicycles
West	32,9%	26,3%
North	13,0%	11,1%
East	21,4%	24,2%
South	25,4%	23,2%
3 biggest cities	7,3%	15,2%

#### 3.2.3.1 Number of dealers

##### 2010:

Total number of dealers : +/- 1800

Total number of employees : +/- 5000

Divided in:

Total number at BOVAG : 1100

Total number at retail organizations :

- Biretco Buying Group : 250

- Profile : 170

- Fietswereld : 50

- Bike Totaal : 170

- ZEG : 120

- Others : Bikes & Retail (Fietsplus, Bike Life), Fietscity

#### 3.2.3.2 Number of employees

##### 2010:

Total number of employees : +/- 5000

### 3.2.4 Access to the profession

A Bicycles technician can basically just start their own, without training, but a degree does provide the expertise that is much needed for building and maintaining a database of regular customers.

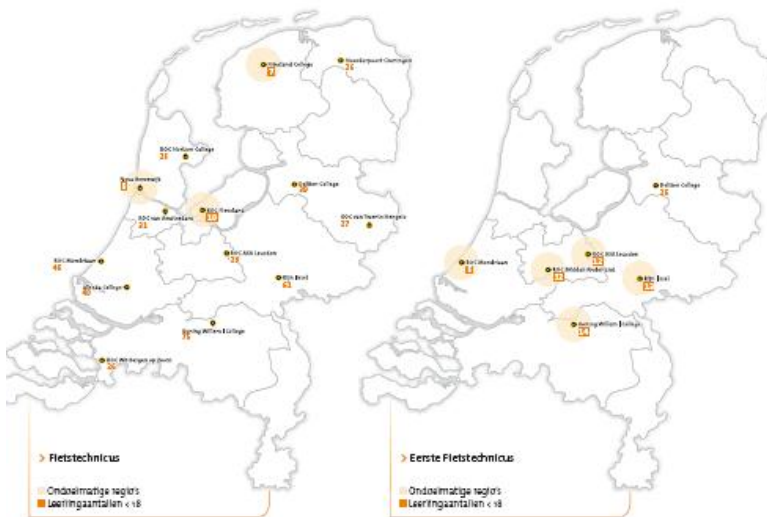
### 3.2.5 Organisation of training

#### Innovam (for employees)

Innovam has over the last years prioritized their effort to deliver training and assessment to employers and employees of bicycle stores. This is partly due to the increasing complexity of bicycle technology and changing consumer behavior. Since 2009, more than 500 employees participated in our assessment of their current technical, sales or management skills to fix. Subsequently, the employees with a training plan aimed retrained, where e-Bike training is a regular part part of the program. This activity we also conducted for the employees of the two largest retail organizations in the Netherlands, namely Bike Totaal and Profile "De fietsspecialist". Innovam also deliver training for BOVAG (branche organisation of employers in the mobility branche) and manufactures Accell Group and Bosch.

#### Regionale OpleidingsCentra, ROC (for students)

A ROC is an educational institution for vocational and adult education with a regional function. There is a secondary vocational education (level 2) bicycle technique and (level 3) first bicycle technique. This course is ideal for the profession of bicycle, the bicycle and prepares aspiring to the changing labor market. In under mentioned picture there is an overview where the institutions are located.



## 3.3 Country facts Czech Republic

### 3.3.1 Use of the bike

Some facts of the Czechs as cyclists:

- Most cycling is clearly done for recreational purposes.
- Almost everyone cycles on some sort of 'mountain bike'
- There is only little infrastructure for bicycles
- The infrastructure that is there ranges from very poor to sometimes very good
- Cycle routes (through 'normal' streets) are well signposted
- Smaller towns and cities have more utility cycling
- A very high number of people chose to ride with helmets (even without general helmet law)

The summary – Czech citizens love cycling – it is the most common leisure activity in the country. The cycle transport is still very underdeveloped, comparing to Germany, Denmark or Benelux, partly due to the hilly landscape and largely assumed danger of the city cycling.

### 3.3.2 Sales numbers

The official statistics published by EU sources estimate the number of the bicycle produced at 400 thousand a year. Bike import into the Czech Republic stood at about 360,000 units of which 200,000 came from outside the European Union. There is are no official government official statistics for classic not electric bicycles.

There are well known companies like Author (Universe Agency), 4Ever, BikeFun (Superior) and Olpran.

### 3.3.3 The electric bike market

Electric bicycles has still very small portion of the market. In 2012 a more precise monitoring system of bicycle imports and exports regarding to the engine power output was introduced. E-bikes with a power output of up to 250W and higher are monitored separately and 5,872 e-bikes in this category have been imported from China. Some brands are finished in the country, namely the BP Lumen (KTM brand) and the Leader Fox. The total number of electric bicycles sold we estimate at 7000 units in 2012.

There are about 25 importers of electric bicycles in 2013 in the Czech Republic, but most of their production has very problematic quality since the price sensitivity is high. The entry level models market price starts at 670€ incl. VAT with the average price at 900€ incl. VAT. The market outlook is very positive and some of the low-end distributors already stopped the offering due the high volume of complaints.

Compared to other CEE countries the knowledge of the “electric bicycle” is very high and most of the bicycle shops has at least one brand on sale.

Following the trend in the classic bicycles the ebikes are mainly used for recreation purposes, by woman and elderly persons. Ekolo.cz is leading the activities in cooperation with the national cycling advocacy groups and NGO’s to make them a perfect city commuter solution. Since the 70% of the Czech cities landscape is rather hilly, the advantages are obvious.

There are first companies, local and multinational in the major cities employed the electric bicycles fleets into their mobility portfolio. Staff of Vodafone Czech Republic, Google are using them. In the historical city of Prague there are 5 electric bicycle rental agencies in 2013 season with the total number of 120 e-bicycles to rent.

### 3.3.4 Access to the profession

There is not official training for the bicycle mechanic in the Czech Republic. Most of the bicycle repair shops employees recruit from the orthodox cyclists who are fixing the bicycles themselves. The usual profile of cycle mechanic is 25 years, biker, and enthusiastic person.

The only adopted bicycle mechanic course is Bike Academy, the program led by Kastar agency from city of Zdar nad Sazavou, where Ekolo.cz service staff is participating on the electric bicycle education lectures (held 2-3 times over the winter period) in the past 2 years.

Ekolo.cz has 5 year experience with its distributor’s education. Usually the cycle mechanic knowledge is at good level, but the electric components maintenance is mission or is at very low level. Than the advantages of the complex system of the electric bicycle mechanic training is very obvious.

## 3.4 Country facts Denmark

### 3.4.1 Use of the bike

Approximately 500.000 bikes sold annually.

As transportation mean to and from work.

2004: 17% male, 36% female.

### 3.4.2 Sales numbers

Approximately 500.000 bikes sold annually.

### 3.4.3 The electric bike market

2010 sold 6.000 e-bikes

2011 estimated 18.000 sold

2012 according to the Danish Statistical Bureau apx.4% is electric, around 20.000 units

Another source Chairman of Danske Cykel handler says

2012 estimated 30.000-40.000 sold

Most users +50 years

#### 3.4.3.1 Number of dealers

Bicycle dealers in total >1200

### 3.4.3.2 Number of employees

Estimated 3 per shop in average.

### 3.4.4 Access to the profession

All persons concluding the compulsory 9<sup>th</sup> class (lower secondary level) are qualified to join the specialized training as a bicycle mechanic.

### 3.4.5 Organisation of training

In Denmark three vocational training centers offer the specialized training as a bicycle mechanic. Namely, CELF in Nykoebing Falster, Herningsholms Erhvervsskole, in Herning, Jutland and TIC Hvidovre in a suburb to Copenhagen.

The training as a bike mechanic takes three years and three months and is concluded with an apprentice exam. Passing this exam the person is a fully trained journeyman authorized to seek any job as a bicycle mechanic or start his own business.

The training as a bicycle mechanic is, like all Danish vocational training courses, structures in the official dual training system where students and apprentices alternates between internship in the workshop and training courses at the vocational training center.

A person may start at one of the three training centers or, alternatively, start in a workshop. In both cases the student and the company must sign an official contract stipulating the content of the training in the workshop. The first course at the training center is of 20 to 40 weeks duration where the student learns the basics of the trade. The rest of the training period the student is a internee at the workshop interrupted by four periods of five weeks at the school, concluding with the exam qualifying to be a journeyman.

At CELF there are approximately 150 individual students a year on the bicycle mechanic education

## 3.5 Country facts Lithuania

### 3.5.1 Use of the bike

Po Vilnius Jerusalem Labour Market training center has done a poll about the use of bicycles. There were more than 100 respondents. The results showed that

- 70 percent of respondents has their own bicycle;
- during active seasons people are using bicycles more than once per week (60 percent of respondents);
- people in Lithuania are more linked to use bicycles as a tool for leisure than as a transport, however, a bit less than a half (40.9 percent) of respondents are using bicycle as a means of transport;
- moreover, 73 percent of respondents have bought a bicycle less than 5 years ago;
- 33.3 percent respondents claimed that they are planning to buy new bicycle in this year.

It is notable, that the use of bicycles in Lithuania is restricted by cold winter season for approximately 6 months.

Following data from Eurostat, Lithuania in 2010 took first place among Baltic states in export of bicycles. Exports from Lithuania in 2010 have reached over 330,000 bikes. After a 33% fall in 2009 numbers were very close to the record sales of 2007 and 2008. The number of imported bikes in 2010 in Lithuania was less than 30 thousand – another big drop after numbers in 2009. Statistics Lithuania claims that the usage of bicycles is increased in 2011 2<sup>th</sup> and 3<sup>rd</sup> quarters.

#### Lithuania: Bike Import & Export

	2007	2008	2009	2010
Export in units	387,000	388,564	263,677	330,606
Export in value	38,107,952	40,324,347	31,831,246	43,158,180
Average value*	98.50	103.80	120.70	130.54

Source: Eurostat, \*Amount in Euro

	2007	2008	2009	2010
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Import in units	66,393	87,056	44,034	29,289
Import in value	3,543,450	4,593,499	3,421,794	2,769,731
Average value*	53.40	52.80	77.70	94.56

Source: Eurostat, \*Amount in Euro

To sum up, sales of bicycles are increasing in Lithuania. Bicycles are becoming more popular as an alternative transport. What is more, Lithuania is the leader of Baltic states exporting bicycles.

There are not exact data about the use of e-bikes in Lithuania, however we can decide about it according to other aspects such as vacancy of new companies, selling companies feedbacks, survey made by PO VJLMTC.

Lithuania is a small country with an estimated population 3.2 million, that is the reason why the sales of e-bikes cannot be such huge as in bigger countries. In addition Lithuania is not rich country (average disposable income per household member per month in 2010 was 832 Lt). New e-bike average price is from 5000 to 12000 Lt, that is the reason why most people can barely afford to buy an e-bike. However, we can still claim that the use of e-bikes is increasing in Lithuania.

During term from 2007 to 2011 there emerged more than 10 companies in Lithuania that are selling or repairing electrical bicycles. Moreover, one Lithuanian company started produce e-bikes from 2012. What is more, Vilnius was first in Europe to launch public electric bikes "Rent and Share" program.

It is worth mentioning that according to survey "Usage of e-bikes in Lithuania" (made in 2012 by PO Vilnius Jerusalem Labour Market Training Center) more than a half of respondents claimed that they have used an e-bike at least once. Almost all e-bike users claimed that they have rent an e-bike for leisure activities. The survey also asked participants if they are planning to buy an e-bike. 60 percent of respondents answered that they would buy an e-bike if their income would be higher, 30 percent answered that they would buy an e-bike if there would be comfort to use it in all seasons, 10 percent answered that they are not interested in buying e-bike.

There are no training programs in Lithuania for e-bikes sellers or repairmen. Vilnius Jerusalem labor market training center aim of this project is to establish training programs for this increasing market niche.

To sum up, there are lots of features that usage and sales of e-bikes are increasing in Lithuania. This market niche is perspective and it is important for PO VJDRMC to fill the missing market gap.

### 3.5.2 Sales numbers

Consumers' response on e-bikes.	PO Vilnius Jerusalem Labour Market training center asked respondents of the survey to answer few questions about their opinion about e-bikes. Respondents were asked if they think that e-bikes are useful. 72 percent answered positive. To sum up, according to the survey consumers' response is strongly positive as far as e-bikes are concerned.
Number of manufacturers.	There is only one company that is going to started produce e-bikes in 2012 in Lithuania. It is JSC Baltik Vaira. Largest manufacturer JSC Baltik Vairas sold 313 thousands bikes, annual turnover was 158,6 mln. Lt in 2011.
Number of dealers.	Bikes dealers' companies - 139, E-bikes dealers's – 15

### 3.5.3 The electric bike market

JSC Baltic Bicycle Trade - one of the largest bicycle manufacturers in Northern Europe. According to the data of single producer in Lithuania, produce over 300 000 bicycles over the year. Only 4 percent productions stay in Lithuania.

E-bikes for sale by affordable prices models cost up to 2000 litas (it is 579,24 EUR), cheaper batteries cost -latest models Boch systems- about 3,000 euros in Lithuania.

There is Lithuanian Bicycle Business Association (LBBA), which was established in 2010. It grew out from the numerous discussions among Lithuanian traders concerning the problems related to the regulation of the bicycle business market in Lithuania. In the nearest years was decided to create database should collect data about usage of bicycle in Lithuania, to analyze data, collect information that would allow to make decisions for creating a more favorable environment for cyclists in Lithuania.

PO Vilnius Jerusalem Labour Market Training Center contacted to Lithuanian Bicycle Business Association specialist responsible for database administration and we were informed that registration is more and more popular between bicycles, however there is no in registration even one e-bike for today.

There is noticed features that stores announce that sells electric bikes, but they do not have them and according to order dealers provide from current factories. To have illustration of numbers, the registry representative mentioned that one company through summer period last year (2012) sold only 3 electric bikes.

#### **3.5.4 Access to the profession**

A review of job websites, it can be said that quite often the work offered bicycle mechanics, technicians, vendors, consultants, however, a tendency that is required for them are as for general mechanic or an equivalent qualification. AIKOS\* system has registered Bicycle repairer training program (code 723114). There were no descriptions about e-bike dealers and bike repairers.

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\*The web AIKOS contains data from the registers of the Ministry of Education and Science. This search is targeted at students, people who want to choose their profession.

So the conclusion would be that training programs e-bike dealers and bike repairers would be new and not so common for current labor market, employers require a qualified mechanic to work on proper bicycle master / vendor / consultant, a person does not interest obtain precisely the bicycle repairer qualifications.

There are no training programs in Lithuania for e-bikes sellers or repairmen. Vilnius Jerusalem labor market training center aim of this project is to establish training programs for this increasing market niche.

## 4 Legislation – EU vs national legislation

A template was created during the project to make an inventory of rules and regulations governing electric bicycles with a view to include these rules and regulations in the training plan.

This template lists all rules and laws applicable to electric bicycles and to the activity of selling electric bicycles in the European Union. It concerns:

1. Specific technical and administrative rules and regulations
2. Liability and guarantees
3. Access to trade
4. Trade practices
5. Employment conditions

If the basis of a rule is European legislation, member states sometimes have some margin to apply certain provisions.

There are also some rules without a European basis, in Belgium for instance, that is the technical requirements for cycles and their trailers included in the traffic code.

In the last column, we have indicated which particular knowledge about each law/rule needs to be included in the training.

All national overviews have been included as an annex to this report.





**COMPETENCE PROFILE E-BIKE MECHANIC**

**TECHNICAL COMPETENCES**

Assembly	Maintenance & Repair	Analysis & Diagnostics	Regulations	Sales
<p><b>Perform and knowledge of assembly techniques</b></p> <ul style="list-style-type: none"> <li>▪ Assemble bicycles (steerage, wheels...).</li> <li>▪ Assemble accessories (child seats, trailers, windscreens, couplings...).</li> <li>▪ Clean bicycle, remove protection and adjust bolts.</li> <li>▪ Use measuring instruments (caliper, multimeter...).</li> <li>▪ Specify and select components for a custom bike</li> <li>▪ Select and adjust bicycle to fit rider</li> <li>▪ Use hand tools</li> <li>▪ Use power tools/hand held operations</li> <li>▪ Interpret technical drawings</li> <li>▪ Install crimp on connectors</li> <li>▪ Solder wires and contacts</li> </ul>	<p><b>Perform complex repair and maintenance works on e-bikes</b></p> <ul style="list-style-type: none"> <li>▪ Service and repair bicycle mechanical braking systems</li> <li>▪ Service and repair bicycle hydraulic braking systems</li> <li>▪ Service and repair bicycle drivetrain systems</li> <li>▪ Service and repair/overhaul bicycle steering systems</li> <li>▪ Service and repair/overhaul bicycle suspension systems</li> <li>▪ Remove, repair and fit bicycle tyres</li> <li>▪ Service and repair/overhaul bicycle wheels and hubs</li> <li>▪ Fit and adjust bicycle accessories</li> <li>▪ Service and repair bicycle frames</li> <li>▪ Check and correct errors in lighting systems</li> <li>▪ Troubleshoot lighting systems</li> <li>▪ Metering power source with electrical measuring equipment</li> <li>▪ Test, service and charge batteries</li> <li>▪ Carry out repairs to single</li> </ul>	<p><b>Analysis and diagnost complex problems and interferences on e-bikes</b></p> <ul style="list-style-type: none"> <li>▪ Identify, clarify and resolve problems/interferences.</li> <li>▪ Carry out diagnostic procedures.</li> <li>▪ Use multimeter and diagnostic tools.</li> <li>▪ Group and combine different analyses.</li> <li>▪ Advise customer on repairs and price.</li> <li>▪ Recognize and understand the safe way to handle electrical shorts that can cause fire or shock hazard in both main connected charger/power supplies and in the battery powered system of the bike</li> </ul>	<ul style="list-style-type: none"> <li>▪ Apply safe working practices</li> <li>▪ Implement environmental regulation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Establish relations with customers</li> <li>▪ Apply sales procedures</li> <li>▪ Promote products and services</li> <li>▪ Develop product knowledge</li> <li>▪ Interact with customers</li> <li>▪ Assess and value second hand bikes.</li> </ul>

	<p>electrical circuits</p> <ul style="list-style-type: none"> <li>▪ Install, test and repair low voltage wiring/lighting systems</li> <li>▪ Install, test and repair electrical security systems/components</li> <li>▪ Repair instruments and warning systems</li> <li>▪ Repair charging systems</li> </ul> <ul style="list-style-type: none"> <li>▪ Operate in a retail bicycle environment</li> <li>▪ Use hand tools</li> <li>▪ Use measuring tools</li> <li>▪ Use power tools/hand held operations</li> <li>▪ Provide work skill instruction</li> <li>▪ Consult work instructions</li> <li>▪ Contribute to quality work outcomes</li> <li>▪ Inspect technical quality of work</li> <li>▪ Maintain workplace safety</li> </ul>			
<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>▪ Assembly techniques</li> <li>▪ Safetying techniques</li> <li>▪ Technology of bike devices</li> <li>▪ Safety regulation</li> </ul>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>▪ (dis)mounting techniques</li> <li>▪ Maintenance products (oils, cleaner...)</li> <li>▪ Safety regulation</li> <li>▪ Calculations of voltage, current and resistance</li> <li>▪ Ohms law</li> </ul>	<p><b>Knowledge of:</b></p>	<p><b>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>▪ EU and national regulation on e-bikes</li> <li>▪ National regulations on administrative procedures</li> </ul>	<p><b>Knowledge of:</b></p> <p>Sales techniques</p> <p>Technical knowledge of bikes and accessories</p>

**BEHAVIOURAL COMPETENCES**

<b>Communication</b>	<b>Planning &amp; Organisation</b>	<b>Teamwork</b>	<b>Initiative</b>	<b>Self-management</b>	<b>Lifelong learning</b>
<ul style="list-style-type: none"> <li>▪ Understand and carry out verbal instructions from supervisors and others.</li> <li>▪ Read and understand workplace documentation, forms.</li> <li>▪ Share work-related information with other team members.</li> <li>▪ Use industry terminology.</li> <li>▪ Communicate with people from a range of social backgrounds.</li> <li>▪ Establish relations with customers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Plan daily work tasks.</li> <li>▪ Prioritize activities to achieve required outcomes.</li> <li>▪ Plan appropriate equipment and materials.</li> <li>▪ Plan ahead to anticipate problems with availability of equipment, materials and staff.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Positive attitude to the team environment.</li> <li>▪ Work effectively with others.</li> <li>▪ Respect the view of others.</li> <li>▪ Give and receive feedback.</li> <li>▪ Identify your own role and the role of others.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Suggest ideas for workplace improvement.</li> <li>▪ Positively adapt to changes in workplace procedures.</li> <li>▪ Make adjustments to improve own performance.</li> <li>▪ Take positive action to report risk situations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Follow workplace safety requirements and other policies and procedures.</li> <li>▪ Complete tasks on time.</li> <li>▪ Select and use appropriate equipment.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Identify personal strengths and weaknesses.</li> <li>▪ Act upon feedback and accept opportunities to learn to improve your work performance.</li> <li>▪ Ask questions to gain information.</li> <li>▪ Identify sources of information to expand knowledge and understanding.</li> </ul>

**COMPETENCE PROFILE E-BIKE DEALER**

**TECHNICAL COMPETENCES**

<b>Assembly</b>	<b>Maintenance &amp; Repair</b>	<b>Analysis &amp; Diagnostics</b>	<b>Regulations</b>	<b>Sales</b>
<p><b>Perform and knowledge of assembly techniques</b></p> <ul style="list-style-type: none"> <li>▪ Assemble bicycles (steerage, wheels...).</li> <li>▪ Assemble accessories (child seats, windscreens, couplings...).</li> <li>▪ Specify and select components for a custom bike</li> <li>▪ Select and adjust bicycle to fit rider</li> <li>▪ Use hand tools</li> <li>▪ Use power tools/hand held operations</li> </ul>	<p><b>Perform complex repair and maintenance works on e-bikes</b></p> <ul style="list-style-type: none"> <li>▪ Fit and adjust bicycle accessories</li> <li>▪ Operate in a retail bicycle environment</li> <li>▪ Provide work skill instruction</li> <li>▪ Consult work instructions</li> <li>▪ Contribute to quality work outcomes</li> <li>▪ Inspect technical quality of work</li> <li>▪ Maintain workplace safety</li> </ul>	<p><b>Analysis and diagnost complex problems and interferences on e-bikes</b></p> <ul style="list-style-type: none"> <li>▪ Advise customer on repairs and price.</li> <li>▪ Recognize and understand the safe way to handle electrical shorts that can cause fire or shock hazard in both main connected charger/power supplies and in the battery powered system of the bike</li> <li>▪ Communicate on safety issues to train staff and customers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide room and opportunity to apply safe working practices</li> <li>▪ Implement environmental regulation</li> <li>▪ Implement good administrative and financial practice</li> </ul>	<ul style="list-style-type: none"> <li>▪ Establish relations with customers</li> <li>▪ Present stock and sales area</li> <li>▪ Apply sales procedures</li> <li>▪ Promote products and services</li> <li>▪ Process customer complaints</li> <li>▪ Deliver and monitor a service to customers</li> <li>▪ Develop product knowledge</li> <li>▪ Interact with customers</li> <li>▪ Perform stock control procedures</li> <li>▪ Maintain and order stock</li> <li>▪ Receive and store stock</li> <li>▪ Financial management</li> <li>▪ Assess the customer needs and specifications to propose the correct bike</li> <li>▪ Give proper instructions to customers on how to use the bike (usage + range of driving)</li> <li>▪ Bike ready to run</li> <li>▪ Advise and inform on 2<sup>nd</sup> hand bikes</li> </ul>

<b>Knowledge of:</b> <ul style="list-style-type: none"> <li>▪ Assembly techniques</li> <li>▪ Safetying techniques</li> <li>▪ Technology of bike devices</li> <li>▪ Safety regulation</li> </ul>	<b>Knowledge of:</b> <ul style="list-style-type: none"> <li>▪ Maintenance products (oils, grease, cleaner...)</li> <li>▪ Safety regulation</li> </ul>	<b>Knowledge of:</b>	<b>Knowledge of:</b> <ul style="list-style-type: none"> <li>▪ EU and national regulation on e-bikes</li> <li>▪ National regulations on administrative procedures</li> </ul>	<b>Knowledge of:</b> <ul style="list-style-type: none"> <li>PR and marketing strategies</li> <li>Sales techniques</li> <li>Technical knowledge of bikes and accessories</li> <li>Market situation</li> <li>competitors</li> </ul>
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**BEHAVIOURAL COMPETENCES**

<b>Communication</b>	<b>Planning &amp; Organisation</b>	<b>Teamwork</b>	<b>Initiative</b>	<b>Self-management</b>	<b>Lifelong learning</b>
<ul style="list-style-type: none"> <li>▪ Understand and carry out verbal instructions from supervisors and others.</li> <li>▪ Read and understand workplace documentation, forms.</li> <li>▪ Share work-related information with other team members.</li> <li>▪ Use industry terminology.</li> <li>▪ Communicate with people from a range of social backgrounds.</li> <li>▪ Establish relations with customers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Plan daily work tasks.</li> <li>▪ Prioritize activities to achieve required outcomes.</li> <li>▪ Plan appropriate equipment and materials.</li> <li>▪ Plan ahead to anticipate problems with availability of equipment, materials and staff.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Positive attitude to the team environment.</li> <li>▪ Work effectively with others.</li> <li>▪ Respect the view of others.</li> <li>▪ Give and receive feedback.</li> <li>▪ Identify your own role and the role of others.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Suggest ideas for workplace improvement.</li> <li>▪ Positively adapt to changes in workplace procedures.</li> <li>▪ Make adjustments to improve own performance.</li> <li>▪ Take positive action to report risk situations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Follow workplace safety requirements and other policies and procedures.</li> <li>▪ Complete tasks on time.</li> <li>▪ Select and use appropriate equipment.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Identify personal strengths and weaknesses.</li> <li>▪ Act upon feedback and accept opportunities to learn to improve your work performance.</li> <li>▪ Ask questions to gain information.</li> <li>▪ Identify sources of information to expand knowledge and understanding.</li> </ul>

## 6 Appendix

- Overview report of national training standards in partner countries (EQF)
- Legislation overview per partner country