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**Comparative analysis of vocational training and work based learning in Germany, Scotland and Sweden**

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## Comparative analysis of vocational training and work based learning in Germany, Scotland and Sweden

by

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## Table of Contents

Introduction .....	4
Summary.....	5
1. Mentor/trainer training.....	6
Germany.....	6
Scotland .....	7
Sweden .....	7
2. Medical requirements.....	10
Germany.....	10
Scotland .....	10
Sweden .....	11
3. Safety in VET (Automotive).....	12
Germany.....	12
Scotland .....	12
Sweden .....	14
4. Working Time/Working Hours/Holidays.....	15
Germany.....	15
Scotland .....	16
Sweden .....	17
5. Work Based Assessors .....	19
Germany.....	19
Scotland .....	19
Sweden .....	20
6.a Examination Board.....	22
Germany.....	22
Sweden .....	22
Scotland .....	23
6.b On-going Examination.....	24
Germany.....	24
Scotland .....	24
Sweden .....	25
6.c Final Examination.....	27
Germany.....	27
Scotland .....	28
Sweden .....	28

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6.d On-line assessment .....	30
Germany.....	30
Scotland .....	30
Sweden .....	31
6.e Transparency of results.....	32
Germany.....	32
Scotland .....	32
Sweden .....	33
7.a Curriculum Framework (Theoretical Part) .....	34
Germany.....	34
Scotland .....	34
Sweden .....	35
7. b Curriculum framework (Practical Part) .....	36
Germany.....	36
Scotland .....	36
Sweden .....	38
8. Training Reports Made by Learners.....	39
Germany.....	39
Scotland .....	39
Sweden .....	40
9. Insurance of the learner in the company .....	41
Germany.....	41
Scotland .....	41
Sweden .....	42
10. Entry Requirements of the Learner to the Motor Vehicle Trades .....	44
Germany.....	44
Scotland .....	44
Sweden .....	45
Recommendations .....	46
Glossary.....	47
Sources.....	51
Germany.....	51
Scotland .....	52
Sweden .....	52

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## Introduction

This report acts as the starting point for a comparative analysis between three partner countries in the Erasmus+ project “Work based learning in the vehicle industry”. This project is in line with the European policies and objectives of EU2020 and ET2020 and is directly linked with the policies presented in "Work-based Learning in Europe. Practices and policy pointers". The project is also following the objectives and priorities of Strategic Partnerships specified in the Erasmus+ Programme Guide especially the objectives of "increasing labour market relevance of learning provision and qualifications and reinforcing links between education, training or the youth fields with the world of work" and "promoting structured inter-regional and cross-border cooperation: enhancing the commitment of local and regional public authorities in the qualitative development of the education, training and youth fields".

Apprenticeship and training systems cannot be copy-pasted from one country to another. The main objective from this project is to develop the best practice found from each of the partner countries in order to raise the standard of work based learning in the vehicle industry. We will also exchange experiences, know-how and best practices, to find inspiration and see how key elements can be implemented efficiently and effectively work-based learning. Additional support is needed because of the rapid technological developments in the vehicle industry demands have led to that an increasing part of the automotive secondary VET is performed as work-based learning in companies. This project will develop tools for work-based learning based on know-how and practices of the partner organisations in Sweden, Germany and Scotland (UK).

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## Summary

The report deals with the organisation of the work-based vocational educational training (VET) in the context of different models of VET and labour market regimes in Germany, Scotland and Sweden. It provides an overview of the systems and methods for work-based part of vocational training in these countries. The overview makes it possible to identify similarities and differences. There are significant variances in the extent of the work-based part of the vocational education and training (VET) from near 80% in Germany and Scotland to 20% in Sweden. There are parallels in collaboration with companies and social partners in the design of learning outcomes of vocational training in purpose to optimise learners' employability in the automotive industry after finishing training. A key issue in the report is to give an impression of terms and conditions for workplace-based learning in the compared countries. How Germany, Scotland and Sweden have chosen to address several issues about the quality of learning out-comes and security for learners.

Recognised systems for evaluation of work based learning out-come exist in all three countries, but there are differences in approach and scope. Scotland doesn't have a system for training of mentors, but instead a well-developed system of assessors. In Sweden it is a responsibility of the college to educate in- company based mentors for work-based learning. In Germany a system, governed by law, is in place, where all motor vehicle companies must have a master craftsman that has acknowledged education in mentoring learners' in work-based learning.

Scotland has a well-developed system of work-based assessors for on-going evaluation rather than the end of year assessment. In Germany assessment is organised in the dual system where Chamber of crafts plays a key role in evaluating learners' practical skills and theoretical knowledge by both evaluation of weekly reports and a test in the end of second year. Compared countries are using on-line tools for examination of theoretical knowledge as well. Sweden has also developed solutions that allow the use of smartphones for the evaluation of learning outcomes in a work-based learning environment.

All learners in vehicle work-based training are covered by health and safety rules and policies although it is national differences.

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## 1. Mentor/trainer training

### Germany

In Germany learners can only be trained by persons that are personally and technically suitable for this purpose. The requirements on the suitability are regulated by law in the Vocational Training Act (BBiG)<sup>1</sup> as well as in the German Crafts Code (HwO)<sup>2</sup>.

Persons with professional and pedagogical skills and competences are technically qualified for doing this job.

In the motor vehicle sector a successfully passed examination for the master's certificate is essential to train apprentices. The master craftsman training that needs to be passed for this purpose consists of 4 parts:

- part 1: practical experience
- part 2: specific theory
- part 3: commercial and legal competences
- part 4: profession and work educational competences

Part 4 or train-the-trainer education<sup>3</sup> ensures a practical and action orientated qualification of the trainers on an inter-professional level. The profession and work educational competences are provided in the following action fields:

- checking educational requirements and planning the training
- preparing the training and recruiting learners
- implementing the training
- completing the training

Part 4 has a total volume of 115 hours and finishes with the trainers aptitude that consists of a written and oral part as well as a presentation for simulating a practical instruction. Part 4 is a Germany-wide recognised advanced vocational qualification to validate the professional and pedagogical skills. In the skilled crafts sector this part of the master craftsman training is the basic qualification to train apprentices in the own company. In the industrial sector it is the Training of Trainers.

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<sup>1</sup> Vocational Training Act 30§

<sup>2</sup> Crafts Code 22§, par. 1

<sup>3</sup> Ordinance on trainer aptitude 2+3§

**Scotland**

Employers offering an apprenticeship in Scotland need to induct the apprentice and support their on-the-job learning using skills and knowledge in the workforce. Where it is possible, in addition to the line manager, the apprentice should also have a workplace mentor. This should be a colleague who the apprentice can talk to in confidence about the apprenticeship and who should support the apprentice to raise concerns or make suggestions of improvements. In very small organisations it is sometimes not possible to do this. In these circumstances the apprentice should raise any worries, ideas, issues etc. with the training provider. Employers will be involved in all aspects of the apprentice program. There are no laws in Scotland directing who can become an apprentice mentor.

**Sweden**

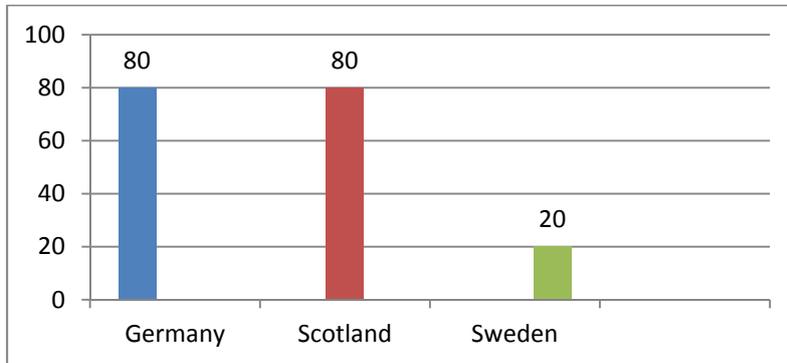
There are similarities, but unlike Germany the work-based learning is mostly 15 weeks in a three year time of professional training. The college's management is responsible of the quality of all work based learning, including the qualification of the company mentor. Sweden doesn't have a system of master craftsman training like Germany. In addition to being proficient in the profession and finding it easy to describe their expertise, the person appointed as mentor should also have an interested in training learners and be interested in young people. If the enterprises are missing qualified mentors, the college should organise training for the mentors. The responsible teacher at the college will also continuously monitor the work-based learning. Agreements must be reached between the college and the company on the terms and scope of the planned learning outcomes from the work-based training period. The motor vehicle sector has a collective agreement about work-based training as well. Apart from this The Swedish National Agency for Education offers an on-line training for mentors and the Motor Industry Professional Board of Sweden (MYN) offers companies' guidelines for mentors in the motor vehicle sector. The later sets out, for example, that the company mentor main tasks are to:

- Along with professional teacher at the college, plan the work-based learning
- Introduce the learner in the workplace
- Be a good role model as a professional and peer
- Train the learner in the planned work and the safety and security
- Being the learners fixed point of contact at the enterprise
- Along with vocational teacher monitoring and assess the learner
- Participate in the monitoring and evaluation of the internship

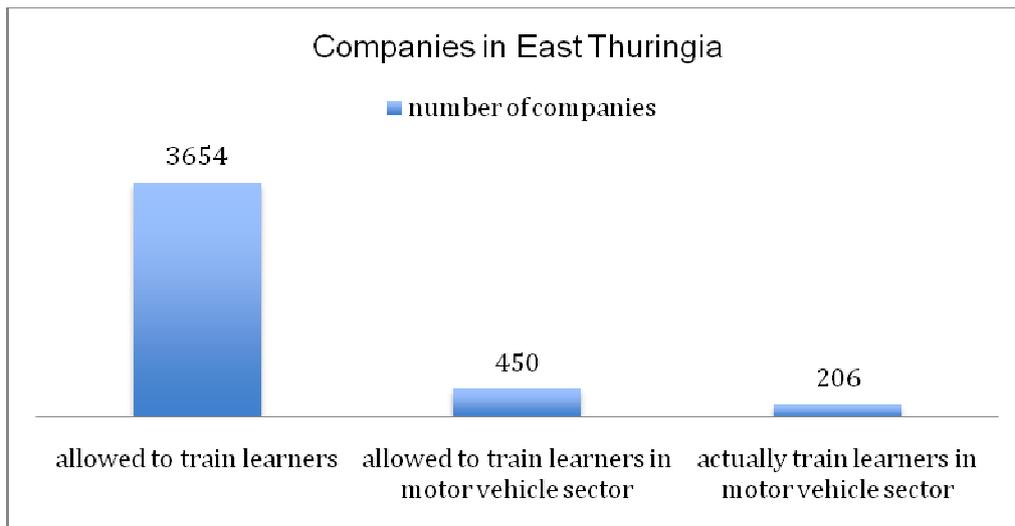
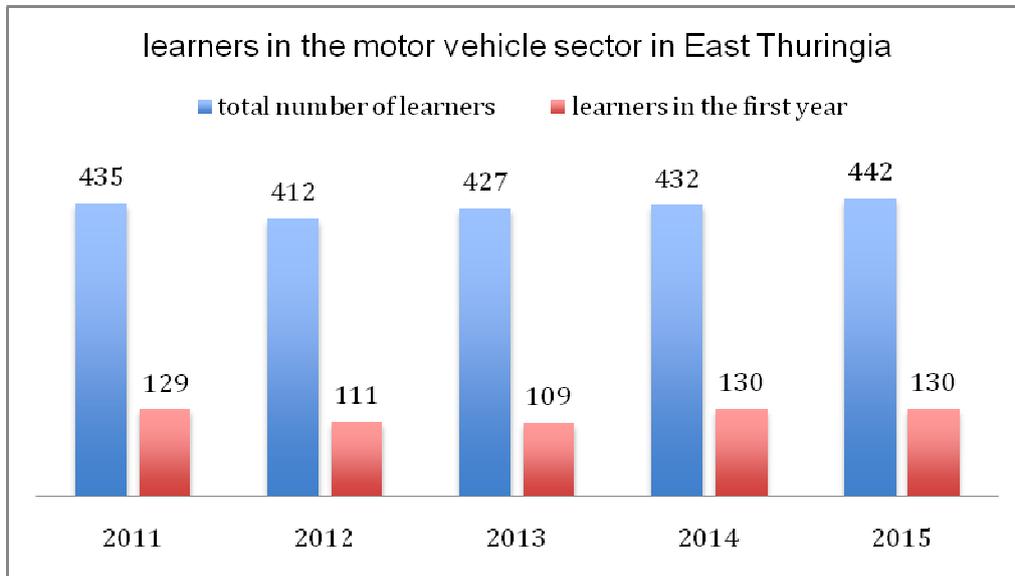
Chart: Education and Training of work based mentors.

Country	Responsibility of the company	Responsibility of the college	No training
Germany	x		
Scotland			x
Sweden		x	

Diagram: Percentage of the apprentices time spent training in companies.



Both German and Scottish learners spend the majority of time (80%) training in companies and only 20% at College, while in Sweden the majority of time is spent at College and only 20% out in companies.



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## 2. Medical requirements

### Germany

Before starting a vocational training, youths (persons under 18 years of age) have to undergo an initial medical examination. This examination aims to avoid that youths are employed in occupations or services endangering their health and/or development.

This initial examination pursuant to the Youth Protection Act<sup>4</sup> is therefore a condition for starting a vocational training. Youths can only be trained or employed if the medical examination has been done.

The examination must take place in the previous 14 months before the training is due to start. If the initial examination certificate is not submitted to the company, the youth cannot be employed/trained. Furthermore the Chamber of Skilled Crafts would not be allowed to register the training contract.

One year after starting the training or employment, the certificate for the first follow-up examination has to be presented. The follow-up examination must take place within the last 3 months of the first year of training or employment

In addition the doctor has the possibility to arrange a supplementary examination through another doctor if the health and development status of the youth cannot be assessed sufficiently.

Persons over 18 years of age (adults' pursuant German law) do not need an initial medical examination when starting a training or employment.

### Scotland

There are no official requirements for an apprentice to undergo medical examinations before starting an apprenticeship program in Scotland. If you are under 18, your employer must however do an assessment of possible risks to your health and safety, before they employ you. They must pay particular attention to your age, lack of experience, and other things that could be a risk to your health and safety.

You may have to have a health check if it's a legal requirement of the job (for example, having an eye test for a job as a driver). You should be told about any

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<sup>4</sup> Youth Employment Protection Act 32+33 §

health checks in your offer letter. Your employer may ask for a medical report, but if they want one, they must have policies for keeping it secure.

If you have a disability, it should not be used as a reason for singling you out for a health test without good reason. If you are, and you do not get the job as a result, you can complain to an Industrial Tribunal. It's unlawful to treat people with disabilities less favourably because of their disability. This doesn't mean that it will always be unlawful for an employer to ask a person with a disability to have a health check, even if other candidates are not asked. It will depend on the nature of your disability and the needs of the job.

### Sweden

Before a period of work-based learning takes place, the college and company have to assess any health risks for learners and if necessary perform a medical check of the learner and take any necessary measures, such as adapting the work-practice tasks. The responsibility for a health risk assessment of the internship workplace rests on college management. The company is on the other hand responsible for fulfilling the Swedish health and safety legislation.

Chart: Medical requirements per country

Country	Mandatory health check	Mandatory health check learners under 18 year	Health check if warranted	No health check
Germany		x		
Scotland			x	
Sweden			x	

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### 3. Safety in VET (Automotive)

#### Germany

Rules for working safety and health protection in training companies are set up as different guidelines, like:

- federal laws (e.g. Maternity Protection Act),
- policy of the Employers' Liability Insurance Association,
- labour agreements,
- corporate agreements.

Wearing of protective clothes can be compulsory for safety reasons (e.g. hard hat, goggles, safety boots) or for hygienic reasons (e.g. snood, gloves). In both cases the training company must supply the learner with suitable equipment free of charge<sup>5</sup>. Learners who become pregnant are effected by the Maternity Protection Act<sup>6</sup>. The training company is obliged to inform the supervisory authority about the pregnancy to make sure the particular regulations and rules (e.g. maternal leave job protection, alignment of the labour conditions) are obeyed.

Working with machinery and equipment and working with hazardous materials are in effect of special regulations<sup>7</sup> that explain the use of the equipment as well as the behaviour in case of danger.

#### Scotland

All aspects of health and safety at work must be recognized within the delivery of vocational training and all statutory requirements be adhered to.

In Scotland it is critical that, during the induction period of the Modern Apprenticeship, apprentices are fully informed both of the regulations and that they and their employers are bound by these regulations. Modern Apprentices should always be made aware of their rights and duties with regard to health and safety.

All Modern Apprentices (MA's) supported by Skills Development Scotland (SDS) will be required to satisfy SDS's Health and Safety policy and systems, however the following extract exists in their guidance document 2015 .

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<sup>5</sup> Civil Code, 618§, par. 1

<sup>6</sup> Maternity Protection Act, 5§ par.1

<sup>7</sup> Workplace ordinance 3§ par. 1 attachment

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*“The Skills Development Scotland Co. Ltd (SDS) will not monitor any aspect of health and safety relating to employed status trainees. With respect to employed status trainees, the Provider is reminded of its statutory obligations towards its employees and should also remind Sub-contractors of their statutory obligations, particularly in relation to Health and Safety and Employers’ Liability.”<sup>8</sup>*

The IMI (Institute of the Motor Industry) issue guidance to employers who employ apprentices. Their literature states:

*“As an employer it is your legal responsibility to make sure that all your staff has a safe environment to work in. Legally you have to have Health & Safety guidelines and provide your staff with Health & Safety training.*

*A person aged less than 18 years is still classed as a minor, so when taking on an apprentice that is under 18 years you need to be aware of the Health & Safety rules regarding minors. For example, they may not be able to operate certain machinery or carry out certain tasks.”<sup>9</sup>*

In Scotland, and throughout the UK, The Health and Safety Executive (HSE) regulate and legislate all aspects concerning health and safety in the workplace. The HSE's work covers a varied range of activities; from shaping and reviewing regulations, to producing research and statistics and enforcing the law.

Employers in Scotland must have policies, procedures and appropriate measures in place for the following:

- Risk Assessment
- Compliance with the Control of Substances Hazardous to Health (COSHH) Regulations
- Manual Handling Operations
- Excessive noise levels
- Safety Policy and Competent person supervision

The provider must also have a policy on Disclosure Scotland, Accidents and Reporting.

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<sup>8</sup> <https://www.skillsdevelopmentscotland.co.uk/our-services/provider-central/national-training-programmes/requirements/health-safety-responsibilities/>

<sup>9</sup> <http://www.theimi.org.uk/sites/default/files/documents/scotland-looking-to-employ-an-app-201203.pdf>

All employers and VET providers must ensure all participants are given health and safety induction into the workplace, covering hazards in the workplace and control measures, fire, emergencies, first aid, accident reporting and security arrangements.

Employers must also ensure they have the correct type and level of insurance for their workplace. Further information can be found on the HSE website<sup>10</sup>.

### Sweden

In Sweden a learner receiving training at a workplace is always equated with an employee in terms of working environment. The college and the employer are jointly responsible for the learners work environment. For learners that have not yet turned 18, there are special rules which mean that minors may not carry out certain hazardous tasks<sup>11</sup>. The employer must assess the risks involved with the task the learner will perform to National regulations about systematic work environment and work equipment learners have to use<sup>12</sup>. It is always the employers responsibility to supply the learner with necessary protective equipment and make sure they use it. The vehicle business is regulated by law through "*Arbetskyddsstyrelsens föreskrifter om arbete i motorbranschen, AFS 1998:8 3*".

Chart: Personal Safety equipment for work-based learning in the vehicle industry per country.

Country	Safety shoes	Hearing-protection	Protective eye glasses	Workwear	Gloves	Barrier Cream
Germany	x	x	x	x	x	x
Scotland	x	x	x	x	x	x
Sweden	x	x	x	x	x	

<sup>10</sup> <http://www.hse.gov.uk/>

<sup>11</sup> Ansvaret förelämnas arbetsmiljö, Skolverket, ISBN 978-91-7559-034-9, 2013

<sup>12</sup> 8 § Arbetsmiljöverkets föreskrifter om systematiskt (AFS 2001:1) och 3-4 §§ Arbetsmiljöverkets föreskrifter om användning av arbetsutrustning (AFS 2006:4).

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#### 4. Working Time/Working Hours/Holidays

##### Germany

The working time for under-aged learners is regulated in the Youth Employment Protection Act. It says that minors are allowed to work eight hours a day and forty hours a week at maximum<sup>13</sup>. On particular days they can work up to eight and a half hours, but the overtime must be used up within the same week<sup>14</sup>. Between 8 p.m. and 6 a.m. minors are not allowed to work at all, with exceptions. Under-aged learners must not work more than five days a week<sup>15</sup>. The two days off should associate. When working on Saturday and/or Sunday, the under-aged learner has one or two days off within the same week.

The time in vocational school is considered as working time<sup>16</sup>. Five or more lessons a day equal eight hours at work. A week in vocational school equals a working week with forty hours, when the learner has attended at least 25 lessons on five days.

The working hours for learners older than 18 is regulated in the Working Hours Act<sup>17</sup>. Learners are allowed to work six days a week for eight hours each day and maximum 48 hours a week.

Times needed for breaks, change clothes, and personal care is not considered working time for the learners<sup>18</sup>.

##### Holidays

The holiday entitlement for under-aged learners is also regulated in the Youth Employment Protection Act<sup>19</sup>, and for those who are older, in the Federal Holiday Act<sup>20</sup>.

##### According to Youth Employment Protection Act

- learner is younger than 16 at the beginning of the civil year:

30 workdays (Monday to Saturday) = 2.5 workdays per month      or  
25 business days (Monday to Friday) = 2.1 business days per month

- learner is younger than 17 at the beginning of the civil year:

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<sup>13</sup> Youth Employment Protection Act, 8§ par. 1

<sup>14</sup> Youth Employment Protection Act, 8§ par. 2a

<sup>15</sup> Youth Employment Protection Act, 15§

<sup>16</sup> Youth Employment Protection Act, 9§

<sup>17</sup> Working Hours Act, 3§

<sup>18</sup> Working Hours Act, 4§

<sup>19</sup> Youth Employment Protection Act, 19§

<sup>20</sup> Federal Holiday Act, 3§ par.1

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27 workdays (Monday to Saturday) = 2.25 workdays per month or  
23 business days (Monday to Friday) = 2 business days per month

- learner is younger than 18 at the beginning of the civil year:

25 workdays (Monday to Saturday) = 2.1 workdays per month or  
21 business days (Monday to Friday) = 1.75 business days per month

#### According to Federal Holiday Act

24 workdays (Monday to Saturday) = 2 workdays per month or  
20 business days (Monday to Friday) = 1.7 business days per month

#### **Scotland**

Scotland has a law directing working hours, breaks and holidays, which is sometimes called the 'working time directive' or 'working time regulations'. The Working Time Regulations (1998) implement the European Working Time Directive into GB law.

#### Working hours

In general you can't work more than 48 hours a week on average. You can however choose to work more than 48 hours a week on average if you're over 18. This is called 'opting out'. Your employer can ask you to opt out, but you can't be dismissed or treated unfairly for refusing to do so. You can opt out for a certain period or indefinitely and it must be voluntary and in writing.

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Break entitlements

<b>Break entitlements</b>	<b>Over 18</b>	<b>Minors</b>
<b>Rest breaks at work</b>	one uninterrupted 20 minute rest break if working more than 6hrs	30 minute rest break if working more than 4.5 hours(if possible uninterrupted)
<b>Daily rest</b>	11 hours rest between working days	12hours rest between working days
<b>Weekly rest</b>	An uninterrupted 24 hours without any work/ week or an uninterrupted 48 hours without any work/fortnight	weekly rest of 48 hours

Holiday entitlements

Most workers who work a 5-day week must receive 28 days' paid annual leave per year (known as statutory leave entitlement or annual leave). An employer can include bank holidays as part of statutory annual leave. Bank or public holidays do not however have to be given as paid leave.

**Sweden**

The Swedish Working Hours Act has rules about how much one may work per day, per week and per year. It deals with on-call time and preparedness, what breaks one has a right to, and what applies when it comes to night-time rest.<sup>21</sup>

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21 AFS 2012:3: Arbetsmiljöverketsföreskrifter om minderårigsarbetsmiljöochhallmännsråd om tillämpningenavföreskrifterna/ The Swedish Work Environment Authority is an authority that has the mandate from the government to see that laws about work environment and working hours are followed by companies.

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 Age 16-18 year (minor) general rules.

- Must have at least 12 consecutive hours during each period of 24 hours. The time between 22 and 06 or between 23 o'clock and 07 shall be free from work.
- The minors must have a minimum rest period of two days during each period of seven days. As far as possible, the duration shall be continuous and shall take place at the weekend. The continuous leave may never be less than 36 hours.
- The work may occupy a maximum of 8 hours per day and 40 hours per week.

Chart: In general working hours adults over 18 years per partner country

<b>Country</b>	<b>Working hours (hrs) per day</b>	<b>Working hours per week</b>	<b>Break minimum per day á 8h</b>	<b>National rules for minors from 16 year up to 18 year</b>
<b>Germany</b>	10 hrs	48 hrs	30 min (6-9 working hrs/day) 45 min (> 9 working hrs/day)	yes
<b>Scotland, UK</b>	Only weekly limit unless you are under 18 years	48 h(with possibility to opt out)	20 min(per day a 6h)	yes
<b>Sweden</b>	8 hrs	40 hrs	30 min	yes

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## 5. Work Based Assessors

### Germany

The Chamber of Skilled Crafts has got several monitoring and supporting official duties:

- Preparation and pre-training of the apprenticeship
- Vocational training
- 

These duties are embedded within the Vocational Training Act and other regulations.

These official duties are manifested within the Vocational Training Act<sup>22</sup> and the Crafts Code<sup>23</sup> and are realised by the vocational training advisors of the Chambers of Skilled Crafts. These training advisors meet the contracting parties in cases of questions or conflicts affecting the vocational training. These services are free of charge.

The training advisors additionally furnish legal advice concerning the vocational training and counsel companies in terms of requirements and preconditions to establish apprenticeships.

Training advisors can act as neutral mediators between the learner, the training company, the learner's parents, and the teachers. With this functional responsibility and professional competence the training advisors can successfully support the accomplishments of the apprenticeship.

### Scotland

The role of a Work Based Assessor (WBA) in relation to West Lothian College, Scotland is to ensure the contract apprentices achieve their full framework, managing all aspects of the framework components for their agreed caseload (the caseload will depend on volume expectations in the context of the level of apprentice, their geographic location, and the number of apprentices with each employer).

They must also identify opportunities, develop and implement new work based learning opportunities outside of existing contract arrangements to ensure the business continues for the Training Provider.

The WBA also has responsibilities to:

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<sup>22</sup> Vocational Training Act, 76§ par. 1

<sup>23</sup> Crafts Code 41§ par. 1

- 
- Ensure initial assessments are carried out in line with College policy and ensure appropriate support is put in place to support apprentices' needs.
  - Develop and agree the learners' ILP (Individual learning plan) with the learner and employer
  - Undertake regular (every thirteen weeks) on-site assessment of learners using appropriate documentation in agreed timescale
  - Undertake progress reviews in line with contractual obligations
  - Ensure learners make progress in achieving all aspects of their ILPs, including their Core Skills and mandatory Automotive related qualification
  - Liaise with curriculum staff to ensure classroom based qualifications are on track
  - Liaise with employers on the progress of their learners' learning
  - Complete all necessary documentation to claim learners' qualifications
  - Contribute to supporting and supervising learners, including taking action to ensure acceptable behaviour at all times

In summary, the Work Based Assessor is the central figure in the Apprentices training, they communicate with the Training Provider (College), the Employer and the Employee (the Apprentice). They are key persons to the success of the apprenticeship and play a very valued role that can never be underestimated.

#### **Sweden**

In all cases of work-based learning, equally short term and long term, the appointed teacher at a college has both responsibility and obligation under the law to assess the learning outcome in line with national regulations for the vehicle training program at upper secondary school level ISCED 3.

In the workplace, learners must have a mentor responsible for the apprentice learning and professional development. The college ensures that learners gain knowledge and skills according to their educational objectives. Monitoring of the work-based learning should be ongoing between learner, mentor and teachers.

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The goals of the college are that all learners individually:

- take responsibility for their learning and results
- can assess their learning results and need for development in relation to the requirements and objectives of the automotive vocational education training.

Teachers as the assessor should:

- regularly provide each learner with information about their progress and the need for development in their learning
- work together with parents and guardians, and provide information about the learners' learning situation and acquisition of knowledge
- inform learners the basis on which grades is awarded.<sup>24</sup>

Chart: Assessors of work based-learning.

Country	Managed by the college	Not managed by the college
Germany		x
Scotland		x
Sweden	x	

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<sup>24</sup> Curriculum for the upper secondary school, ISBN: 978-91-7559-022-6, Skolverket, 2013.

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## 6.a Examination Board

### Germany

The Crafts Code regulates the establishing of the examination boards. The Chambers of Skilled Craft are committed to institute examination boards, according to the Crafts Code<sup>25</sup>. The Chambers of Skilled Crafts set up the examination boards or they delegate the set up to the Craft Guilds. The Craft Guilds must be able to carry out the final examinations<sup>26</sup>.

An examination board consists of minimum three members and their substitutes<sup>27</sup>. The members must be skilled and experienced in the fields of their profession. Members of the examination boards are independent business owners (employers), employees and teachers of a vocational training school. The quantity of employers and employees within the examination board has to be equal, e.g. two employers, two employees, and one teacher.

The members of the examination board elect a chairperson and a substitute<sup>28</sup>. They should not belong to the same group of persons, e.g. one employee and one employer. The examination board has the quorum with two thirds of its members, at least three members. A resolution of the examination board requires a simple majority. At a parity of votes decides the chairperson<sup>29</sup>. The members of the examination board are assigned for five years at maximum<sup>30</sup>. They work in a voluntary capacity, but receive an appropriate compensation for accruing costs.

### Sweden

Sweden does not apply examination boards in the motor vehicle sector. An explanation can be that the company-based training as well as the elements of contractually regulated apprenticeship that still exists is very marginal element in training at secondary level. Apprenticeship training has historically a weak position in Sweden. Characteristic of this is the concentration of VET in college environment.

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<sup>25</sup> Crafts Code, 31-40§§

<sup>26</sup> Crafts Code, 33§ par. 1

<sup>27</sup> Crafts Code, 34§

<sup>28</sup> Crafts Code, 35§ sentence 1+2

<sup>29</sup> Crafts Code, 35§ sentence 3+4

<sup>30</sup> Crafts Code, 34§ par. 2

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Briefly, one can say that the college-based vocational education in Sweden can serve as preparatory vocational education training and the learner will be fully trained professional workers after several years as an employee.

This is an approach Sweden chose in long periods with high employment and rapid technological development, but at the moment is under debate, as the country now faces new challenges.

**Scotland**

Like Sweden, Scotland does not apply examination boards in the automotive sector. When the learner completes their three year training period and is successful in all of the assessments (will gain their Modern Apprentice Certificate) then they are deemed competent and fully qualified to work in the vehicle trade.

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## 6.b On-going Examination

### Germany

The examination for automotive mechatronics is divided into two parts<sup>31</sup>. The first part takes place at the end of the second year of training<sup>32</sup>. The learners have to be enrolled for the exam to the Chamber of Skilled Crafts by the training company<sup>33</sup>. The Chamber announces the exact date of enrolment.

The following requirements are essential for the enrolment<sup>34</sup>:

- The period of training was completed so far,
- Training reports made by learners are signed,
- The vocational training contract between the learner and the training company is registered in the Chamber of Skilled Crafts.

The examination contents are based on the imparted skills and acquirements of the first 18 month of apprenticeship, written in both curriculum framework and training regulations<sup>35</sup>. The first part of the final examination contains a written part (120 minutes), and a practical part (180 minutes), including a technical discussion (10 minutes)<sup>36</sup>.

The first part of the final examination is a no legally stand-alone section of the two-parted final examination. Learners cannot appeal against it or rerun it in case of inadequate results<sup>37</sup>.

The training company must pay the costs for the exam<sup>38</sup>.

### Scotland

In order for an apprentice be become fully qualified, they must complete their award/qualification in full and also complete a candidate folio (on-going record of automotive units and work completed in the workplace). In Scotland, training providers have the option of what Awarding Body to use as long as they are verified by the Sector Skills Council (Institute of the Motor Industry (IMI)) and on the current

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<sup>31</sup> Vocational Training Regulation, 6§

<sup>32</sup> Vocational Training Regulation, 7§

<sup>33</sup> Examination Regulations Chamber of Skilled Crafts for East Thuringia, 12§

<sup>34</sup> Crafts Code, 36a§ par.2

<sup>35</sup> Vocational Training Regulation, 7§ par. 2

<sup>36</sup> Vocational Training Regulation, 7§ par. 4, point 5

<sup>37</sup> Examination Regulations Chamber of Skilled Crafts for East Thuringia, 26§ par.4

<sup>38</sup> Vocational Training Act, 37§ par. 1 and Crafts Code, 31§ par.4

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Modern Apprentice Framework. Apprentices attending West Lothian College, Scotland will complete their SVQ/VRQ qualifications through City & Guilds.

The nature of the City & Guilds awards favours on-going examination rather than the end of year assessment. Their awards are made up of mandatory and supplementary units; each apprentice must achieve a set number of credits from the framework to achieve the overall certificate. Most individual units have both knowledge and practical components. The knowledge component is assessed online via the City & Guilds Walled Garden (their online Secure Assessment area). The practical component is assessed via observation through the completion of “job cards” or by the assessor/employer/trainer completing an observation check sheet.

A typical Light Vehicle Maintenance and Repair apprenticeship lasts three years, with college attendance one day per week for the duration. During this time the apprentice will be continually assessed. The framework is flexible enough to allow candidates time to develop the skills and knowledge to be successful with the units and have time for remediation if required.

#### **Sweden**

The motor vehicle sector in Sweden doesn't have ongoing examination of work-based learning. Instead the Swedish National Agency for Education highlights the importance of the teacher following the learners continuously during the work-based learning period to ensure that the learner is working towards the goals. To ensure this is happening, the teacher should plan assessment and feedback together with the workplace mentor.

The teacher is responsible for the assessment and to rate and assess learner performance throughout the work-based learning. Rating is an overall assessment of learners' knowledge at the end of the course, including both theoretical and practical parts. The teacher must therefore use all available ratings data, from both school-based parts and the workplace, and weigh them against each other. The teacher is obliged to inform the learner about what applies to the assessment in the workplace learning.

The Swedish National Agency for Education has assessment support for the national vehicle vocational educational programs containing an introductory video, a publication on assessment of professional competence, filmed assessment example, matrices and skill profiles and discussion questions. Teachers in the automotive training in vehicle vocational educational programs have great opportunities and

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freedom to set up their own forms of the on-going evaluation, which can be used by the learners themselves e.g. a work diary where the learners enter the tasks performed every day during work-based learning<sup>39</sup>. This also applies to the mentor at the workplace. The mentor evaluates the performance of the learners and report to the teacher. The workplace mentor can suggest grades as well.

A syllabus is the basis of the work-based learning assessment and is the starting point for assessing the skill requirements.

- Which objectives the learners should achieve
- What should be assessed
- How the quality of the performed tasks should be valued
- To create a comparable basis for assessment, the teacher, the mentor and the learner need to have a common understanding of the concept of quality as specified in the subject field.

There are no existing studies on how well various learners achievement are judged. However the Motor Industry Professional Board of Sweden (MYN) has stated that companies are satisfied with learner's skills and competences after finalisation of the three year vocational education training in college<sup>40</sup>. On the other hand some teachers have expressed problems with judging learners achievement equivalent<sup>41</sup>.

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<sup>39</sup> E.g Elevrapport och elevbedömning APU, Högbersskolan, Tierp, 2015

<sup>40</sup> Anette Norinder, MYN, 28 Sep 2015, Enköping

<sup>41</sup> Dialog with automotive teacher from Sweden visiting STEM, Holland, 3 Nov 2015.

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## 6.c Final Examination

### Germany

The examination for automotive mechatronics is divided into two parts. The first part takes place at the end of the second year of training. The results reached in this part of the examination makes up 35% of the final exam. The second part takes place at the end of the apprenticeship after 3 ½ years and makes up 65%.

Both the first part and second part of the final exam contain a theoretical and a practical section. The contents, the duration, and other parameters are governed in the Training Regulations<sup>42</sup>.

The training company is obliged to enrol the learner on schedule to both parts of the final exam. The dates for the exams are stated by the Chambers of Skilled Crafts. The trainee has to fulfil several requirements to be allowed to take part in the final exam<sup>43</sup>:

- The apprenticeship lasted 3 ½ years
- The learner participated in the first part of the exam
- The learner has continuously written training reports and these reports are signed
- The vocational training contract between the learner and the training company is registered in the Chamber of Skilled Crafts

Immediately after determining the results of the final exam by the examination board the learner gets a written certificate to announce the results of the exam<sup>44</sup>. This certificate must instantly be shown to the training company. The vocational training contract ends the day the second part of the final exam is passed by the learner. When the apprentice passes the final exam, he/she receives a training certificate with the results and scores of the different exam sections<sup>45</sup>. If the apprentice fails the final exam he/she receives a notification which states what sections of the final exam have to be repeated<sup>46</sup>.

The training company is obliged to pay the costs for the final examinations<sup>47</sup>.

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<sup>42</sup> Vocational Training Regulations, 8§

<sup>43</sup> Crafts Code, 36§, par.3

<sup>44</sup> Examination Regulations Chamber of Skilled Crafts for East Thuringia, 26§, par. 3+4

<sup>45</sup> Examination Regulations Chamber of Skilled Crafts for East Thuringia, 27§, par. 1+2

<sup>46</sup> Examination Regulations Chamber of Skilled Crafts for East Thuringia, 28§

<sup>47</sup> Crafts Code, 36a§, par.3 and Vocational Training Regulations 8§

**Scotland**

In Scotland motor vehicle learners do not have to sit a final examination. Because the learner is continually assessed throughout the three years, the final certificate will be awarded when they have completed all of the mandatory and optional units in the framework. Other trades in Scotland do have final “trade tests” (a practical test held at the end of their final year and is independent to the training provider). For example Carpentry and Joinery and Roofing apprentices must pass a trades test to show their competence and achieve their Modern Apprenticeship. Learners can undertake an Automotive Technician Accreditation (ATA) assessment on completion of their Modern Apprenticeship, however this is not mandatory. Some employers ask for this certificate, especially larger dealerships.

The ATA assessment and associated code of conduct will enable individuals to be entered on to a Professional Register, enhancing their employability and providing access to a range of CPD materials and resources.

**Sweden**

Every year the Motor Industry Professional Board of Sweden (MYN) organises a final exam for automotive learners in the third and last year of vocational educational training in college. The test is voluntary and all graduating classes of automotive branches are invited to take the final test. It is a theoretical test based on knowledge in the subjects that the motor industry sector requires.

Every spring, learner in the vehicle engineering disciplines, have a chance to be named Sweden's most talented learners. The test is implemented on the website [www.mynprov.nu](http://www.mynprov.nu) and usually in mid-April to mid-May every year.

Anyone who gets a pass in the final examination and which has been approved in vocational subjects, Swedish, Mathematics and English may purchase a vehicle industry certification for a fee (150 SEK). To pass, learners must have at least 50 points out of 150 possible.

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In 2014 a total of 127 schools with 1543 automotive learners, took part in the Motor Industry Professional Board of Sweden (MYN) automotive tests.

The final test is open for following automotive specialisations:

- Car Mechanic
- Truck Mechanic
- Car damage repairer
- Vehicle refinishers
- Movable Machine Mechanic
- Parts Specialists

The final tests purposes are:

- Raising the status of education and industry professions
- Increasing the quality of education
- Overseeing education levels and training areas
- Increasing awareness of the vehicle industry's requirements
- Liaising with schools

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## 6.d On-line assessment

### Germany

In 2005 the Central Association of German Automotive Trade launched an initiative to change the final examinations for automotive trades from paper based exams to online assessments. These online assessments only relate to the theoretical parts of the exam and contain multiple choice questions, interactive modules, and text boxes. The outworking of online assessments depends on technical requirements like powerful internet connections and enough efficient computers. Within the commuting area of the Chamber of Skilled Crafts in East Thuringia there is one vocational school, where online assessments have been successfully performed since 2009. The training regulations of the trade explain the contents and temporal standards.

A specialised commission establishes the examination questions for each federal state considering the training regulations of the trade. The examination questions are authored as hardcopy and online version. The examination board for automotive trades buy the necessary amount of licences including user names and access keys or the necessary amount of hardcopies. The evaluation of the examination results is done by the examination board. The online assessment system generates all necessary evaluation data as tables and documents. The examination results are archived as hardcopy and \*.pdf file. To prepare the learners a special application “automotive examination trainer” is offered<sup>48</sup>.

### Scotland

In Scotland, training providers can choose which awarding body to use for their MA training (as long as they are on the MA framework document). The most commonly used are City & Guilds, IMI and SQA. At West Lothian College we use City & Guilds as our awarding body for the motor vehicle sector.

City & Guilds awards are made up of individual units. Every unit has both a knowledge element and a practical/skills element. Both must be assessed and successful for the candidate to achieve the unit.

Most of the knowledge units have online multiple choice assessments available that are generated through the City & Guilds secure website. Lecturers book the learners in for their exams and the assessments are all conducted in college under controlled

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<sup>48</sup> Interview, Stefan Haase, CEO, motor vehicle guild of East Thuringia, Gera, Germany

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exam situations. The online exams are graded as Pass, Merit or Distinction. The assessments are marked automatically and the lecturer can see the results instantly, this ensures a consistent marking approach is applied. If a learner does not meet the required level for a pass, they can re-sit the assessment almost immediately, although it is good practice to allow time for further study.

### **Sweden**

In Sweden the lecturer is responsible for assessing and rating the work-based learning outcomes. It is important that the lecturer follows the learner continuously during the period of work-based learning to ensure that the learner is working towards the goals. To do that, the lecturer should develop assessment basis together with the company supervisor. The documents will build on current learning outcomes. The lecturer is obliged to inform the learner of what assessment criterias applies as well.

To provide support for lecturers to assess the learners during a period of work-based learning, the Motor industry professional Board of Sweden (MYN) have an mobile app, which the learner can use in cooperation with the supervisor at the company. Primarily to measure abilities and demonstrating what has been taught by using photos and video. Within the mobile app the supervisor is allowed to rank the learner performing skills in the work assigned, such as quality, time, understanding, knowledge and organisation of the work task.

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## 6.e Transparency of results

### Germany

The learner's examination results are presented to the Chambers of Skilled Crafts by the authorised Guilds. The Chambers of Skilled Crafts gather all examination results in a database and file both the examination certificates and the examination transcripts. From all the collected data the Chambers of Skilled Crafts calculate a gross comprehensive statistic. This helps to inform about the total number of examination participants and the number of passed and failed exams. There is no performance-related evaluation of the results.

These calculations are reported to the Thuringian Statistical Office and the Central Association of the Thuringian Craft at an appointed date<sup>49</sup>.

### Scotland

Scottish Vocational Qualifications (SVQ's) are work-based qualifications, which are based on National Occupational Standards of competence drawn up by representatives from each industry sector. SVQs are made up of units – normally between six and ten – which break a job down into separate functions reflecting the different kinds of activities of a job. When someone has achieved an SVQ, there is a guarantee that they have the skills and knowledge needed to do their job. All Scottish Modern Apprenticeships must contain a relevant SVQ (or NVQ) or equivalent qualification.

The Sector Skills Councils (SSC) will issue a Modern Apprenticeship Certificate of Completion to those Modern Apprentices who have completed the mandatory outcomes of the Framework. Before a certificate is issued, training providers must submit evidence to the SSC that the mandatory outcomes have been achieved. This will normally be in the form of photocopies of certificates from awarding bodies.

It is the responsibility of the Awarding Bodies to ensure that centres are approved, that assessors and verifiers are suitably qualified, trained and monitored, and that all of the assessment criteria of the S/NVQs and S/NVQ units are fully met.

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<sup>49</sup> Interview with Katja König, department leader vocational training, Chamber of Skilled Crafts for East Thuringia, Gera, Germany as well as Torsten Scheiding, staff, department examination service, Chamber of Skilled Crafts for East Thuringia, Gera, Germany

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The learner gets the original certificate of the result and a copy is kept by the college. The results are also kept online by City and Guilds Walled Garden, but this is not open for everyone, a special password is required, which you have to apply for.

### Sweden

In Sweden each automotive lecturer uses their own routines and forms for assessment of work-based learning outcomes. There is no national template that has to be used. The learning outcomes or in other words learning results, from the work-based training and are primarily the basis for the grading of learners made by the lecturer. The lecturer should file the evaluation evidence in paper form for five years. The learner has the right to inspect such documents. A right which even college management, companies and parents have. The documents are open to anyone who requests them<sup>50</sup>. Documentation is not on-line and no national comparative studies of results are made.

### Transparency of results

<i>Country</i>	<i>Lecturer</i>	<i>Companies</i>	<i>Other</i>	<i>On-line</i>
<i>Germany</i>	x		x	
<i>Scotland</i>	x	x		
<i>Sweden</i>	x	x	x	

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<sup>50</sup> Interview with automotive lecture Seved Andersson, Högbergsskolan in Tierp, Sweden

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## 7.a Curriculum Framework (Theoretical Part)

### Germany

The Standing Conference of the Ministers of Education and Cultural Affairs of the Federal States in the Federal Republic of Germany (Standing Conference) draws a framework curriculum for every recognised occupation requiring formal vocational training<sup>51</sup>. The framework curriculum is essential for the education at vocational training schools, as part of the dual system and provides basic and specialised vocational education, as well as aiming to expand the previously acquired general education. The vocational education is based on the training regulations for in-company vocational training. The training regulations are coordinated with the trade associations and the trade unions. These two guidelines, framework curriculum and training regulations, make up the basis for the dual vocational training system.

The framework curriculum presumes general education qualification at the end of the lower secondary level (after nine years). The learner's learning abilities depend on various factors, e.g. gained education level, learning capability, intercultural background and different potentials of the training companies. Therefore the framework curriculum for automotive mechatronics is written openly with no methodical tuition regulations. The several federal states are allowed to assume the framework curriculum or to transfer it into their own curriculum<sup>52</sup>.

The framework curriculum is structured into learning fields and is developed by teachers and educators. The curricula for the non-vocational lessons, e.g. maths, PE, German, etc., are individually developed by the different federal states.

The framework curriculum (theoretical part) and the training regulations (practical part) are always published jointly, e.g. in the Federal Gazette or on the internet, etc.<sup>53</sup>

### Scotland

The Institute of the Motor Industry (who is the present Skills Sector Council) current apprentice framework provides a detailed list of suitable qualifications which delivering centres can choose from to make up the Modern Apprenticeship. All of the authorised awarding bodies offer qualifications that combine both the practical and

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51 <http://www.kmk.org/bildung-schule/berufliche-bildung/rahmenlehrplaene-zu-ausbildungsberufen-nachbbighwo.html>

52 <http://www.schulportal-thueringen.de/web/guest/media/detail?tspi=1536>

53 <https://www.bibb.de/tools/berufsbranche/index.php/regulations/kraftfahrzeugmechatronik2013.pdf>

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theoretical outcomes under one qualification title. Centres have the discretion to decide how they deliver the outcomes. Some may choose to deliver the theory units before moving onto the practical outcomes. Others may choose to deliver the units combined, blending theory and practical to optimise the learners experience and understanding.

### **Sweden**

Regulatory documents in the form of curricula and degree objectives and syllabuses are set by the Swedish Government and the Swedish National Agency for Education. Regulatory documents describe the subject purpose and long term goals as well as each of the courses' core content and learning outcomes. Syllabuses apply to both the theoretical and practical skills, as 80% of training and education is located in the college which always have access to its own automotive workshop.

The Swedish vocational education training (VET) for the automotive sector highlight the quality of vocational training and structured interaction between automotive VET and vehicle industry in the design of the curriculums. The development of the policy documents is done in close cooperation with various actors and stakeholders, such as practicing teachers and researchers and social partners (Confederation of Motor Trades and Industrial Union of Metalworkers) in the motor vehicle sector.

The national VET board for the motor vehicle sector meets about five times a year. At the board meetings mainly secondary vocational education (college) and labour market needs are discussed. Members are representatives of social partners with the knowledge of the vehicle professions and business. In addition to this, there are local and regional boards at local/regional college level and vehicle industry.

The field is well defined as a whole and each course has its listed core content and learning outcomes e.g. *Repair of cars and light trucks*.

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## 7. b Curriculum framework (Practical Part)

### Germany

The apprenticeship for recognised occupations requiring formal training is controlled by national training regulations. This is manifested within the Vocational Training Act and the Skilled Crafts Code<sup>54</sup>. The training regulations are set up by the social partners (German Confederation of Motor Trades and Industrial Union of Metalworkers) with scientific advice by the Federal Institute for Vocational Education and Training. The Federal Ministry of Economy issues the legal decree for each recognised occupations requiring formal training<sup>55</sup>. The training regulations oblige the following:

- Duration of apprenticeship
- To imparting vocational knowledge and qualifications
- Chronologic progress of the apprenticeship
- Examination requirements

The training companies are committed to deliver the training regulations freely to the trainees. The training regulations can be gained from the Chambers of Skilled Crafts or the Automotive Guilds. Further explanations and guidance is provided by the Federal Institute for Vocational Education and Training<sup>56</sup>.

The training framework plan is an essential part of the training regulations and instructs the terms of both content and time of the vocational knowledge and qualifications. The training framework plan details the vocational training contents and matches them to the appropriate year of training<sup>57</sup>.

### Scotland

Modern Apprenticeships are developed by Sector Skills Councils (SSCs). SSCs consult with employers and key partners in their sector to produce a training programme which meets the needs of employers.

In Scotland, there are more than 70 different Modern Apprenticeship Frameworks and they are all designed to deliver a training package around a minimum standard

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<sup>54</sup> Vocational Training Act 4§, par. 2 and Crafts Code 25§, par. 4

<sup>55</sup> Federal Law Gazette part I, page 90, from 27 of January 2014

<sup>56</sup> <https://www.bibb.de/de/berufeinfo.php/profile/apprenticeship/nh324578?key=nh324578>

<sup>57</sup> Vocational Training Regulation 4§, par. 1, exhibit

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of competence defined by employers through SSCs. They all contain the same 3 basic criteria:

- A relevant S/NVQ (or alternative competency based qualifications)
- Core Skills
- Industry specific training

Details of specific Modern Apprenticeships can be found online<sup>58</sup>.

The Institute of the Motor Industry (IMI) is the SSC for the automotive industry. The IMI footprint covers the UK automotive retail sector. This includes a multitude of activities including employers engaged in all aspects of the sale, repair and maintenance of vehicles, as well as services to owners and users of passenger cars, motorcycles, light and heavy commercial vehicles, specialist vehicles and associated equipment. The sector footprint also includes the rental and leasing of automobiles and some motorsport activities.

In the IMI framework of approved qualifications sits a variety of awards by different awarding bodies. Each awarding body has their own regulations regarding delivery, assessment, quality control, internal and external verification. Centres (Schools, Colleges and training providers) must abide by these regulations. Each centre has to get authorisation from the awarding body to deliver their qualifications. To become an approved centre, each provider must have suitably qualified and industrially competent staff, have sufficient quality control systems in place and fully equipped to deliver the qualifications.

West Lothian College deliver City & Guilds Automotive qualifications to the full time learners and apprentices. To remain an approved centre, the college has to meet City & Guilds standards. External Verifiers come out to visit the college once per academic year. Whilst out visiting they inspect learners work, assessment materials, staff qualifications, resources and they also visit employers to ensure that the workplace learning is meeting their standards. This annual process ensures that training providers are keeping their standards high in line with current industry practices.

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<sup>58</sup> <https://www.skillsdevelopmentscotland.co.uk/what-we-do/our-products/modern-apprenticeships/modern-apprenticeship-frameworks/>

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**Sweden**

Sweden has few state-regulated occupations. Regulatory documents in the form of curricula and degree objectives and syllabuses are set by the Swedish Government and the Swedish National Agency for Education. Regulatory documents describe the subject purpose and long term goals as well as each of the courses' core content and learning outcomes. The Swedish vocational education training (VET) for the automotive sector highlight the quality of vocational training and structured interaction between automotive VET and vehicle industry in the design of curriculums. The development of the policy documents is done in close cooperation with various actors and stakeholders, such as practicing teachers and researchers and social partners in the motor vehicle sector.

Each subject in college has a topic plan, which is structured in the same way regardless subject. In the subject field are descriptions of the subject as a whole and descriptions of each course in a subject. For the subject as a whole the substance purpose and long term goals, as well as which courses are included in the subject, are described. The core content and knowledge are also listed for each course. Beyond what is specified in the syllabus, it is the teacher who chooses the pedagogic method, which literature and which materials to use in his/her teaching.<sup>59</sup>

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<sup>59</sup> Översikt över den svenskayrkesutbildningen. Cedefop, 2013 and <http://www.skolverket.se/fran-skola-till-arbetsliv/yrkesutbildningar/gymnasieskola/nationella-programrad/programradet-for-fordons-och-transportprogrammet-1.197327>

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## 8. Training Reports Made by Learners

### Germany

Learners are obliged to keep written records of their daily training programme and their school lessons<sup>60</sup>. These training reports are essentially required for being admitted to a final examination, as this is set up within the Vocational Training Act and in the Crafts Code<sup>61</sup>. The obligation for training reports is confirmed in the training contract. The report itself will not be assessed as part of the final examination<sup>62</sup>. Training reports target at:

- Contemplation of the contents and progression of the training by both learner and trainer
- Proof of contents and progression of the training in both the vocational training school and the training company for all who are involved in the training programme.

The training reports must meet the following minimum requirements:

- Reports should spread over one page (DIN A4) for one week and must be signed by the learner
- Reports contain in note form the contents and duration of practical work, additional instructions and tuitions at the company
- Reports contain in note form the contents and duration of classes at the vocational training school

According to the Vocational Training Act the company prompts the learner and allows working time to keep the records. The company also provides the materials and supervises the written reports free of charge<sup>63</sup>. The person named in the vocational training contract by the company who is responsible for the apprenticeship, watches and signs the reports at least monthly. Additionally, the vocational training school, as partner in the dual vocational training system, may also watch and sign those parts of the records concerning the school.

### Scotland

When using City & Guilds qualifications, the lecturing staff and work based assessors must use the provided paperwork and reporting sheets. Learner logbooks and

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<sup>60</sup> Vocational Training Act 14§ par. 1, sentence 4

<sup>61</sup> Vocational Training Contract 2§, par. 6 additional treaty provisions

<sup>62</sup> Crafts Code 36§, par.2

<sup>63</sup> Vocational Training Act 14§ par.1, sentence 3 (provision of resources)

assessment work packs are provided for each subject and these form the evidence for the skills assessments. Each learner must keep a folio for the duration of their apprenticeship. The folio contains assessment sheets (job cards) that detail specific work that they have undertaken to practice the skills outlined in the curriculum framework. Either a lecturer, work based assessor or their employer must check and countersign these documents and ensure that the job completed did cover the mandatory outcomes required.

City & Guilds external verifiers can ask to see this folio at any time and the College is audited once per year to ensure they are following their assessment guidelines and applying consistent and standard practice throughout. Once a learner completes their apprenticeship and leaves college, their folio must be kept for a further three years for auditing purposes.

### Sweden

In Sweden a majority of automotive learners have 15 weeks work-based learning during 3 year. Each college and teacher has freedom in how to assess the learning outcomes from a period of work-based training in a company. There are no national rules stating that a learner have to write a report of the training receive in the company. However stakeholders, as well as the government and the vehicle industry, promote tools and methods for how learners can design training reports. There are also recommendations for vehicle teachers on how to use these reports for assessment of learning outcomes. These tools are for example learner's portfolios, forms for reports and mobile apps, which can include video films and photos to visualise the learners performed tasks.

*Chart: Training reports made by the learners in Germany, Scotland and Sweden*

Country	National mandatory tools	Decentralised report method	Other Awarding body specific mandatory recording forms
Germany			x
Scotland, UK			x
Sweden		x	

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## 9. Insurance of the learner in the company

### Germany

Every training company is obliged by law to insure their learners at the very beginning of the apprenticeship<sup>64</sup>. The insurance coverage includes statutory health insurance, public unemployment insurance, pension insurance, and statutory nursing care insurance. All contributions go directly to the statutory health insurance fund. Within two weeks of the beginning of the apprenticeship the learners shall inform the training company which health insurance company is holding their insurance. The training company is also obliged to insure their learners to the statutory occupational accident insurance, statutory liability insurance, and employer's liability insurance association.

The statutory occupational accident insurance covers only losses connected to the training within the company and on the way to/from the company. The statutory liability insurance covers losses that occurred whilst working practically. The company pays all insurance contribution if the learner's monthly gross income is under € 325,-. Above € 325, - the learner and the company pay 50% each (presently 19.3% of the gross income)<sup>65</sup>.

Learning time in the vocational school and the way to/from school is covered by the statutory accident insurance<sup>66</sup>. These costs are paid by the respective federal state. In Germany learners can choose their statutory health insurance at the beginning of their apprenticeship. Within the first two weeks of the apprenticeship the learner has to make his/her choice. If not the training company has to determine to which health insurance company the contribution goes.

### Scotland

Most employers are required by the law to insure against liability for injury or disease to their employees and apprentices arising out of their employment. This is according to the Employers' Liability (Compulsory Insurance) Act 1969.

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<sup>64</sup> Social Act, book V, chapter 2, 5§ first clause

<sup>65</sup> Social Act, book VI, 20§ par.3

<sup>66</sup> <http://www.dguv.de/de/Versicherung/Versicherte-Personen/Kinder-Sch%C3%BCler-und-Studenten/Sch%C3%BCler/index.jsp>

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Employers are responsible for the health and safety of their employees, including apprentices, while they are at work. The apprentice may be injured at work or they may become ill as a result of their work while working for the company. They might try to claim compensation if they believe the employer is responsible. The Employers' Liability (Compulsory Insurance) Act 1969 ensures that the employer has at least a minimum level of insurance cover against any such claims.

Employers' liability insurance will enable the company to meet the cost of compensation for apprentices' injuries or illness whether they are caused on or off site.

The company must display a copy of the certificate of insurance where it can easily be read. It is allowed to display the certificate electronically, as long as the employees and apprentices know how and where to find the certificate and have reasonable access to it.

The company has also got legal responsibilities to protect the health and safety of the apprentice. For example, they must carry out a risk assessment that is suitable and sufficient, and take all reasonably practicable measures to protect the apprentice and report incidents.

The Health and Safety Executive (HSE) enforces the law on employers' liability insurance and HSE inspectors can check that the company has employers' liability insurance with an approved insurer for at least £5 million. They may ask to see certificate of insurance and other insurance details.

The company can be fined up to £2500 for any day which they are without suitable insurance. If the company do not display the certificate of insurance or refuse to make it available to HSE inspectors when they ask, they can be fined up to £1000.

A company must use an authorised insurer. If they do not, they may be breaking the law. Authorised insurers are individuals or companies working under the terms of the Financial Services and Markets Act 2000.

#### **Sweden**

The Swedish Motor Trade Employers' Association (in Swedish MAF) and Trade union for automotive workers (IF Metall) has agreed to include work-based learning activities (APL) in the collective agreement. This means that before the work-based learning period begins an agreement between the company and the local union organisation, and another agreement between the company and the college,

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should be concluded. The agreement between the companies and unions can include that the college has the responsibility for liability and accident insurance for learners in work-based learning at a company, if required to receive learners.<sup>67</sup> In agreement with the college it shall be confirmed that learners in work-based learning comprise the Government Regulation on compensation for personal injury. (SKOLFS 1991:47 and SKOLFS1993:6).

Chart: National rules for insurance of the automotive learner in the company per country.

Country	Law	Collective agreement	No rules	Other
Germany	x			
Scotland, UK	x			
Sweden	x	x		

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<sup>67</sup> Handledare i motorbranschen, p 11, MYN, 2011.

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## 10. Entry Requirements of the Learner to the Motor Vehicle Trades

### Germany

Generally, there are no other specific entrance criteria than attending secondary school for nine years to start an apprenticeship as automotive mechatronic<sup>68</sup>. The better an applicant's school leaving certificate and his/her interests in science-oriented disciplines are, the higher are the chances to find a training company and get an apprenticeship. A good work-attitude and good social behaviour as well as quickness of mind, sense of responsibility, willingness, agility, and craft skills are essential for a successful training as automotive mechatronic. Diligence, accuracy, circumspection and the ability to work focused are also necessary. Offered voluntary placements in garages are good opportunities to get an impression of the profession. The potential training companies usually like activities like this. In this way the future partners get to know each other before the training starts.

### Scotland

Although there are no formal entry requirements it is recommended that candidates commencing on the Modern Apprenticeship programme in Scotland should have achieved as a minimum Standard Grades at General level in English, Maths and a Science subject. It is also desirable that an appropriate initial assessment test is undertaken.

Candidates should possess an interest in things mechanical and be able to demonstrate a commitment to working in the industry. This could be through school link courses, work experience programmes or voluntary/part time work.

There is also a further recommendation that a robust induction procedure is in place which includes Equal Opportunities and Employment Rights and Responsibilities.

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<sup>68</sup> Thuringian Education Act 20§

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**Sweden**

In the gymnasium (three-year pre-university course, similar to the UK sixth form college) eligibility for Vehicles Program requires minimum grade E in:

- Swedish or Swedish as a second language
- English
- Mathematics
- At least five other subjects from compulsory school

Grading is A,B, C, D, E, F, where A to E are passing grades and F not approved.

Summary:

**Germany****Entry requirements of the learner to the motor vehicle trades**

- **Good work-attitude, good social behavior, quickness of mind, sense of responsibility, willingness, agility and craft skills**

**Scotland****Entry requirements of the learner to the motor vehicle trades**

- **Minimum Standard Grades at General level in English, Maths and a Science subject**

**Sweden****Entry requirements of the learner to the motor vehicle trades**

- **Approved grade in Swedish or Swedish as a second language, English, Mathematics and at least five other subjects from compulsory school**

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## Recommendations

The vehicle industry-specific training for mentors is necessary for the learners' acquisition of knowledge in the work-based learning context and enables a thorough professionalism. Knowledgeable mentors in vehicle companies are important to ensure the quality of the work-based learning and to effectively achieve the learning outcomes. Apprenticeship systems cannot be copy-pasted from one country to another. We can recognise models for in-company training. Germany is one example and there are also very good examples from Scotland and Sweden. We all have something to learn from each other.

We recommend exchanging experiences and practices to find inspiration and see how key elements can be implemented efficiently and effectively in work-based learning.

By developing work-based learning methods in vehicle vocational training we can improve the learning out-comes. We can also contribute to cross-border work-based training by increasing competency and capacity in handling mutual expectations on learning outcomes and assessment.

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## Glossary

### **Mentor**

in Germany: *A mentor is a person who closely works together with the learner in the training company. This person is a qualified worker without any special pedagogic qualifications. The person's duty is to impart daily routines and skills.*

in Scotland: *An experienced person in a company or educational institution who trains and counsels new employees or students*

in Sweden: *Work-based trainer of learner*

### **Trainer/Instructor**

in Germany: *A trainer or instructor is a person who not necessarily works with the learner every day, but is responsible that the curriculum framework (practical part) is implemented in the training company. This person is vocationally and pedagogically trained, e. g. a master craftsman.*

in Scotland: *The term "trainer" or "instructor" is mainly used in alternative/private training organisations. These terms are not used in schools or colleges.*

in Sweden: *Not using the term.*

### **Teacher**

in Germany: *A teacher is a person who works in a vocational training school and teaches learners in theory lessons.*

in Scotland: *The term "teacher" is used to describe the person who delivers the training to a learner in a school or college. Most colleges use the name "lecturer".*

in Sweden: *in College teaching and training of learner.*

### **Assessor**

in Germany: *An assessor is a person who monitors the implementation of all training requirements and concerns from outside the training company. The concerns include the training in the company and the vocational training school, additional courses at the vocational educational centre, adherence of working hours and holidays, and so on. This person is entitled to mediate between the training company, the vocational school, and the learner.*

in Scotland: *the Work Based Assessor is the central figure in the learners training, they communicate with the Training Provider (College), the Employer and the Employee (the learner/apprentice).*

in Sweden: *The teacher is the assessor.*

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## College

in Germany: *A college can be organised as an independent device or as a component of an university. In college, Bachelor study programs are located. The teaching and training program in the study is targeted at students with a bachelor's degree. The college concept has yet to be designated as experimental in Germany currently.*

in Scotland: *An educational institution or establishment, in particular: one providing higher education or specialised professional or vocational training 'colleges of further education'*

in Sweden: *Level of the certificate (international) Upper secondary school, ISCED 3.*

**Modern Apprentices (MA's) in Scotland:** *Modern Apprenticeships help employers to develop their workforce by training new staff, and upskilling existing employees. For individuals, an MA is a job which lets them earn a wage and gain an industry-recognised qualification.*

**Skills Development Scotland (SDS):** *Skills Development Scotland is a non-departmental public body which is Scotland's skills agency with the following aims:*

- *Enabling people to meet their potential through the support of a modern careers, information, advice and guidance service*
- *Making skills work for employers by providing training that meets their needs*
- *Working together to improve the skills and learning system with local and national partners to make this accessible to individuals and employers*
- *Achieving organisational excellence through good practice and the strengths of their people*

**The Working Time Regulations (1998):** *is the United Kingdom statutory instrument which implements the EU Working Time Directive 2003/88/EC*

*These Regulations govern the time that people in the UK may work. The Regulations apply to all workers (not just employees) and stipulate minimum rest breaks, daily rest, weekly rest and the maximum average working week.*

**City & Guilds in Scotland:** *is a vocational education organisation in the UK. City & Guilds offers more than 500 qualifications over the whole range of industry sectors through 8500 colleges and training providers in 81 countries worldwide. Two million people every year start City & Guilds qualifications, which span all levels from basic skills to the highest standards of professional achievement (Honours, Master and Post Doctorate levels equivalent).*

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**Institute of the Motor Industry (IMI) in Scotland:** *Current Skills Sector Council.*

*Guided by their Scottish Employer Forum, made up of leading employers representing our entire footprint, they aim to ensure that the industry's training and education needs are met, raising skill levels and helping to increase the productivity and growth of the sector.*

**Chamber of Craft in Germany,** *A Chamber of Crafts is organised in the legal form of a public corporation self-regulatory body of the entire craft in a chamber district. The object of the Chambers of Crafts is to represent the interests of the entire craft and to regulate the interests of the craft in the course of self-government itself. The Chamber exercises the legal supervision over the guilds and the district craftsmen's association in the chamber district. At the Chamber of Crafts are the owner of a craft business and the similar business as well as journeymen, workers who have completed vocational training and the apprentices in the companies.*

**Dual system in Germany,** *The dual education system is a system of vocational training. The training in the dual system is done in two places, in the company and at the vocational training school. The person in the dual training system as a trainee or apprentice is referred to. Prerequisite for vocational training in the dual system in Germany is a vocational training contract with the company. The sites to be visited the vocational training school is dependent on the location or of the regional association of the company. The practical part of the training will give the apprentice in the company, the theoretical part assume the vocational training school. The dual training is the dominant form of vocational training in Germany.*

**NVQ/SVQ qualifications in Scotland:** *NVQs are based on national occupational standards. These standards are statements of performance that describe what competent people in a particular occupation are expected to be able to do. They cover all the main aspects of an occupation, including current best practice, the ability to adapt to future requirements and the knowledge and understanding that underpin competent performance.*

*Within reason, NVQs do not have to be completed in a specified amount of time. They can be taken by full-time employees or by school and college students with a work placement or part-time job that enables them to develop the appropriate skills. There are no age limits and no special entry requirements. SVQs operate in the same way as NVQs, but are used exclusively in Scotland.*

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**Motor Industry Professional Board of Sweden (MYN):** *The board include representatives of employers and trade unions and work with recruitment issues under the brand Bilproffs.se. The board collaborates to get well trained and capable people to the motorindustry.*

**Industrial Tribunals** *are independent judicial bodies that hear and determine claims to do with employment matters. These include a range of claims relating to unfair dismissal, breach of contract, wages/other payments, as well as discrimination on the grounds of sex, race, disability, sexual orientation, age, part time working or equal pay.*

**Employers Liability (Compulsory Insurance) Act 1969**

*Employers are responsible for the health and safety of their employees while they are at work. Your employees may be injured at work or they, or your former employees, may become ill as a result of their work while in your employment. They might try to claim compensation from you if they believe you are responsible. The Employers' Liability (Compulsory Insurance) Act 1969 ensures that you have at least a minimum level of insurance cover against any such claims.*

**Financial Services and Markets Act 2000**

*is an Act of the Parliament of the United Kingdom that created the Financial Services Authority (FSA) as a regulator for insurance, investment business and banking, and the Financial Ombudsman Service to resolve disputes as a free alternative to the courts.*

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