EU Train Driver Licence

Functional Requirements Specification

16522R

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Degree of system support for data exchange between RUs and CAs.

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Contents

1. Introduction

1.1 Background

The Directive, which will impose a requirement to introduce a system for the certification of train crews on EU Member States, forms part of the Third Railway Package. In the preamble to the proposal, the Commission noted that "it has rapidly become clear that common rules should be adopted on certification of train drivers to facilitate their interoperability and improve management. This should eventually make it easier to certify railway undertakings while maintaining a high level of safety and guaranteeing conditions for free movement of workers in the railway sector".

The European Commission let a study in December 2005 to investigate existing registers of driver competence and to propose parameters for the new harmonised registers to be set up to hold details of drivers' licences and details of drivers' complementary certificates.

The consultants have taken the watchwords "easier" and "free movement" (above) as the principles for the design of the system.

This document represents the functional specification for the systems to hold licence and to hold certificate data. It is complemented by a report on existing systems and a technical specification for the proposed systems.

1.2 Overview of the Directive

The Directive mandates two elements of a system for issuing an EU-wide Train Driver Licence: -

- The creation of a register maintained by the competent authority in each Member State, which will keep a full record of the licences which it issues. The content of the licence and the register is defined in the Directive.

- The creation of a register maintained by each railway undertaking (or infrastructure manager) which will keep a full record of the complementary certificates of competence which it issues. The content of the complementary certificate and the register is defined in the Directive and includes the specification of the traction units and the infrastructure for which the driver has competence.

Essentially each driver will be required to hold both an EU Driver Licence and at least one Complementary Certificate in order to legally drive a train. Limited exceptions are defined in the Directive.

The Directive also mandates the medical and other tests, and the minimum test standards that must be attained before a driver can be issued with a licence. In addition, the testing regime is also defined that will ensure the driver remains fit to drive over his/her individual career.

The Directive defines the data elements that must be included in the registers (in Annex I4). It seems to the consultants, however, that it would be prudent to provide for additional data to allow the system to operate more efficiently (and in particular to facilitate direct entry of data by railway undertakings where that is permitted). The specification below marks those additional fields and relationships with †. The consultants have also added other fields in the Technical Specification (for example, contact details for the driver, gender of the driver, etc.). This information is not

essential for the operation of the system but, in the view of the consultants, adds value to it.

1.3 Summary of requirements

The requirements, which are described in detail in the appropriate sections, can be summarised as follows: -

1.3.1 Driver licence and register of licences

- Process an application for a licence
- Issue driver licence document to a driver
- Create/amend a licence record
- Record loss, theft or destruction of a licence
- Record recovery of a licence†
- Suspend a licence
- Withdraw a licence
- Change the status of a licence
- Issue licence renewal reminders†
- Exchange licence register data with other registering authorities
- Provide licence data, on request, to authorised third parties
- Maintain lists of accredited organisations (training/exam organisations etc.) concerned with driver licence issue
- Record the employer(s) of a driver holding a licence†.
- Record the results of initial and periodic tests undertaken by drivers
- Archive/Delete a licence record†

1.3.2 Complementary Certificate of Competence

- Issue a certificate to the driver
- Set up a certificate record
- Record/update the traction competencies of a driver
- Record/update the infrastructure competencies of a driver

- Record the licence number of the certificate-holder
- Provide certificate data to the competent authorities of states in which the railway undertaking operates
- Withdraw a certificate
- Cancel a certificate
- Advise the appropriate licensing authority that a driver has been employed by the certificate issuing organisation, (normally a railway undertaking) †
- Notify the competent authority of a driver leaving employment
- Issue a hard-copy copy certificate to a resigning driver
- Archive/Delete a certificate record†.

1.4 Design parameters

The interim report, (which details existing systems and analyses responses to the questionnaires), considers a number of design issues in the light of remarks made by respondents. It examines a number of ways to process, hold, and store data and makes appropriate recommendations.

Clause 20 of the preamble to the Directive emphasises the need to avoid unnecessary administrative and financial burdens when replacing previous authorisations to drive with the relevant provisions of the Directive. These previous authorisations should be safeguarded to the extent possible.

It has therefore been assumed in this specification that the data for the initial licence issue for drivers in employment at the time of introduction of the Directive will most efficiently be provided direct by railway undertakings, either by railway undertakings having authorised access to the licence system, by supplying data directly from their own systems or by the submission of files they create from these systems. Given that the whole process takes place within the context of an audited safety management system, it seems logical to allow the employer to vouch for the details of the staff he currently employs and to input data directly into the competent authority's system when implementation commences. This has the advantage of putting the responsibility for data input and quality with those with the best opportunity to ensure it is correct, and additionally by those with the greatest interest in having it right. This is provided in this specification by an initialisation function to operate during the implementation period.

After implementation, if the initialisation function is considered to have been successful, it could be used as the basis for authorising railway undertakings to make new licence applications on behalf of drivers, as a second application mechanism to that of individual driver applications to the Competent Authority.. This could be accomplished by creating an authorisation table within each Competent Authority's system which would allow Railway Undertakings based within the host member state to input or amend (but not delete) licence data. The authorisation table would be designed to give specific authorisations, railway undertaking by railway undertaking to allow flexibility etc. As an example, the table could allow a given railway undertaking to provide data to authorise the renewal of an existing licence but not allow it to initiate the issue of a wholly new licence.

A facility to allow railway undertakings to access the licensing system could be made available in a

number of ways. Amongst these are direct access through a password-protected interface, the ability to load formatted files into the system; a semi-manual system in which a file supplied by the Railway Undertaking was loaded manually into the licence system by Competent Authority staff, or by means of web access.

In considering the above options the issues that will arise include stability of employment as a train driver (and therefore a limited number of records) and the fact that the initial load only needs to be done once (and an ad hoc solution might therefore be appropriate). Any solution must take into account the range and technical sophistication of railway undertakings; there must be an appropriate solution for all registered railway undertakings whether large or small.

It has also been assumed that no "approval" function by the competent authority is required for Railway Undertaking entries. The only need for such a function is considered to be licence applications by individuals.

The design must also cater for applications by individual drivers, and also new business models for driver employment, such as drivers being employed by driver agencies and working under contract arrangements for one or more RUs.

The principal is that a licence must be issued when all the criteria are satisfied, (and approval has been given for an individual application). This allows the process to be automated.

2. Definitions

The following definitions are based on the definitions in Article 2 of the Directive.

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Term	Definition
Competent Authority (CA)	The safety authority referred to in Article 16 of Directive 2004/49/EC [on railway safety]
Train Driver	A person capable and authorised to drive trains, including locomotives, shunting locomotives, work trains, maintenance railway vehicles or trains for the carriage of passengers or goods by rail in an autonomous, responsible and safe manner.
Railway System	The system composed of the railway infrastructures, comprising lines and fixed installations of the rail system plus the rolling stock of all categories and origin travelling on that infrastructure, as defined in Directive 2004/50/EC;
Infrastructure Manager (IM)	Any body or undertaking that is responsible in particular for establishing and maintaining railway infrastructure, or part thereof, as defined in Article 3 of Directive 91/440/EEC, which may also include the management of infrastructure control and safety systems. The functions of the infrastructure manager on a network or on part of a network may be allocated to different bodies or undertakings;
Railway Undertaking (RU)	Any railway undertaking as defined in Directive 2001/14/EC, and any other public or private undertaking, the activity of which is to provide transport of goods and/or passengers by rail on the basis that the undertaking must ensure traction; this also includes undertakings which provide traction only;
Technical specifications for interoperability (TSIs)	The specifications by which each subsystem or part of a subsystem is covered in order to meet the essential requirements and to ensure the interoperability of the trans-European high-speed and conventional rail systems as defined in Directive 96/48/EC and

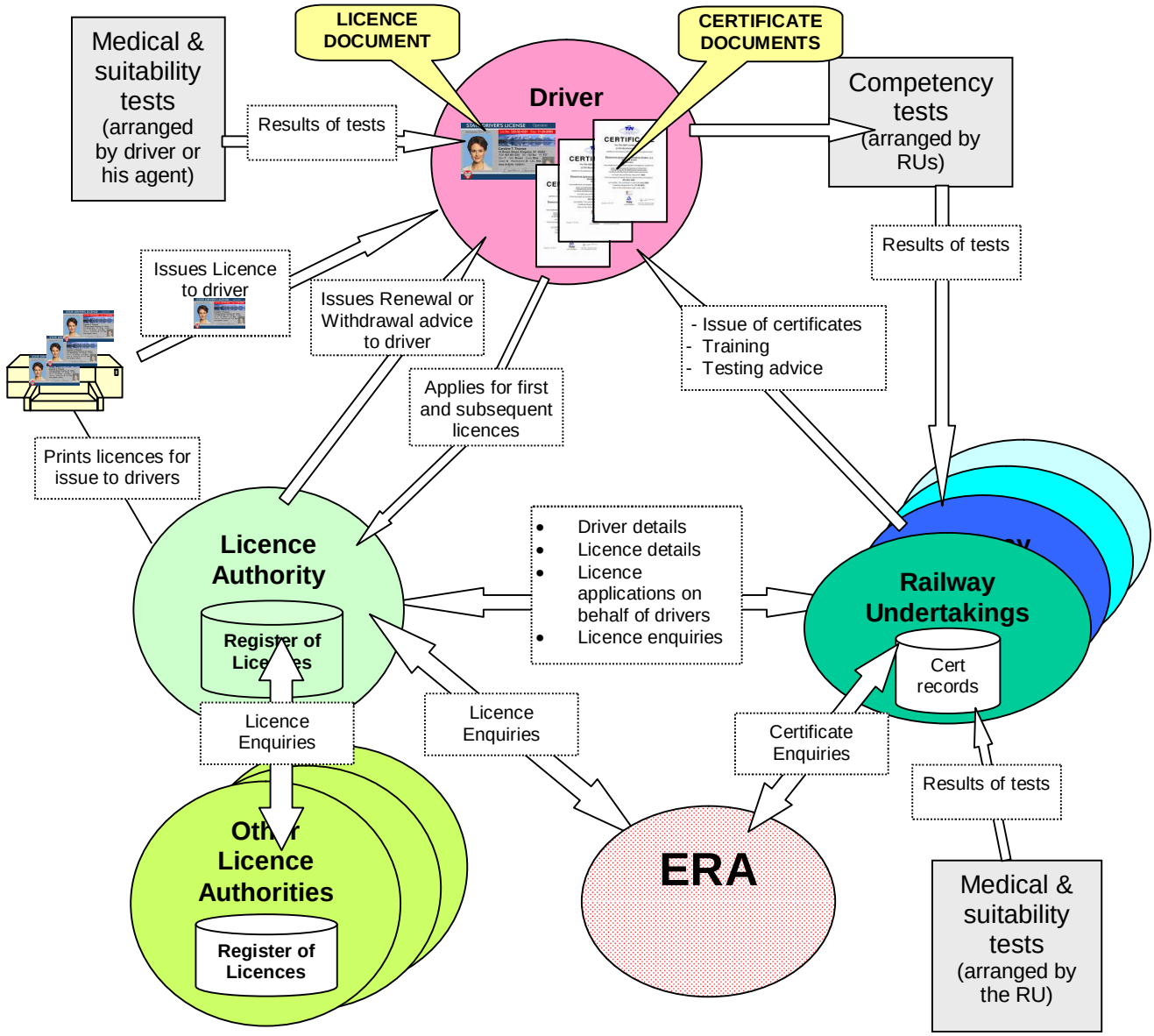
	Directive 2001/16/EC ;
Agency (ERA)	The European Railway Agency (ERA) established by Regulation (EC) No 881/2004 of the European Parliament and of the Council ;
Safety Certificate	The certificate issued to a railway undertaking by a safety authority in accordance with Article 10 of Directive 2004/49/EC on railway safety;
Certificate of competence	The harmonised complementary certificate indicating the infrastructure on which the holder is authorised to drive and the rolling stock which the holder is authorised to drive.
Safety Authorisation	The certificate issued to an infrastructure manager by a safety authority in accordance with Article 11 of Directive 2004/49/EC on railway safety;
Training Centre	An entity accredited or recognised by the competent authority to give the training courses.

Rather than use railway undertaking or infrastructure manager throughout the document to mean the employer of the driver, just “railway undertaking” is normally used. Specific roles are also defined for infrastructure managers (as such) particularly in the coding of data. The context normally makes this clear.

3. Driver Licences & Certificates

3.1 Overview

The diagram below shows the relationships in the proposed system.



4. The actors and their duties

4.1 The driver

- Drives trains for one or more railway undertakings or infrastructure managers (also Article 2 (b)
- Can apply for a licence as an individual even though not employed by a railway undertaking. (articles 8 & 9, and 12(2))
- When granted a licence, holds and owns the licence document issued by the licensing authority (Article 5 (1)
- Is the nominated driver on one or more certificates of competency issued by the railway undertakings that employ him. (Article 5 (2)
- Can request a certified copy (hard-copy) of any certificate of competence from the railway undertaking holding the certificate record on leaving their employment. (Article 5(2) & 15, para 3)
- Is subject to medical and other checks at defined intervals (Article 14

4.2 The competent authority

- Accepts applications for driver licences from individual drivers (Article 2)
- Accepts applications for driver licences from an entity (such as a railway undertaking) on behalf of drivers employed by them. (Article 2)
- Prints and issues licences to drivers (Article 5 (1), 12 (4), & 17(a)
- Maintains a register of licences issued to drivers including results of medical and other tests. (Article 17 (f) and Article 20 (1)(a)
- Monitors the mandatory periodic checks on drivers and ensures they are carried out at the prescribed intervals(Article 17 (b)
- Monitors the process in railway undertakings for granting certificates.(Article 17 (g)
- Carries out inspections of licences and certificates (Article 17 (h)
- Suspends or withdraws a licence when requested by a court of law or other EU body empowered to do so such as the Competent Authority in another Member State. (Article 17 (c), Article 19 (3), & Article 26 (4)
- Requests the suspension of the relevant certificates of competence following the withdrawal or suspension of a licence. (Article 17 © and Article 26)
- Maintains lists of railway undertakings that issue competency certificates within the Member

State of the licensing authority †

- Maintains lists of organisations that are competent to carry out medical tests on drivers, or applicants for driver licences (Articles 9 & 18)
- Maintains lists of accredited and recognised training and competency assessment organisations (Article 18)
- Issues reminders of licence expiry to individual drivers †
- Responds to requests for licence information from competent authorities in other Member States, or the European Railway Agency, or any railway undertaking employing the driver. (Article 20 (b)
- May delegate the task of issuing licences to one or more railway undertakings for the drivers employed by them only. (Article 17 (2) (2bis) & 3)

4.3 The railway undertaking

Note: any infrastructure manager employing drivers acts as a railway undertaking and has the same duties

- Employs drivers (implied and see also Article 5(2))
- May contract with third parties for the supply of drivers to drive its trains (not in Directive)
- Trains and instructs drivers to drive specified traction and rolling stock over specified infrastructure which may lie within one or more Member States. (Article 11, see also Article 22 and Preamble Para. 10)
- Owns the certificates of competence issued to the drivers in its employ (Article 5 (2)
- Maintains records of all certificates issued to drivers and the current status of them (issued, suspended, withdrawn, lost, etc) (Article 13 and Article 20 (2))
- Issues certificates of competence for specified traction and infrastructure as a function of assessed skills.(Article 5 (2)
- Advises the licensing authority of the drivers employed by them together with details of certificate issues. (Articles 15 and 20)
- Advises the licensing authority when drivers cease to be employed by them.(Article 15)
- Can apply for licences on behalf of drivers (Article 12 (2)
- Can issue licences to drivers if authorised by the Competent Authority (Article 17 (2, 2bis, and 3
- Supplies information on request concerning the content of certificates to the competent authorities of any Member State.(Article 20 (20.c)

4.4 The infrastructure manager

- Maintains a register of its infrastructure which includes the characteristics and geographical boundaries of each route †.
- Can employ drivers, and if doing so, has the same responsibilities as defined for a railway undertaking.(Article 2 (e))

4.5 The European Railway Agency

- Monitors and evaluates the train driver licence and certifications system in the first 4 years after its introduction. (Article 31)
- Makes recommendations to the Commission on measures regarding the examination of professional knowledge of drivers. (Article 31)
- Carry out cost/benefit studies of the application of the Directive to a particular Member State on request from the Commission.(Article 34 (5)
- Maintains and publishes common standards for use in the Driver Licensing and Certification System (.Article 20 (3) and (5)
- Act as a focus for the preparation for a “Code of Practice” for the system †.

5. General requirements

5.1 Security

In this section, 'security' is defined as the methods used to maintain confidentiality of data and the measures put in place to limit access to, and the update rights, to authorised persons only.

Systems must therefore be compliant with: -

- Directive 95/46/EC
- Regulation (EC) 45/2001

5.1.1 Access to systems

Access to licence and certificate systems shall be controlled by a system of authority levels appropriate to the system. Users in RUs and CA shall be give the appropriate authority level to their role : -

- View records access
- Create/Update/View access
- Approval access
- In addition, for the levels allowing updates to the system, the data elements the user is permitted to update should also be specified.

5.1.2 Licence and certificate documents

All issues of licence and certificate documents must contain industry-standard anti-fraud measures to prevent falsification, copying, or forgery.

See Technical Specification

5.2 Safety

The recording of information on driver competence on infrastructure and traction has safety risks if incorrectly recorded. Appropriate measures must be placed in the systems to maintain the correctness of data and to mitigate the effects of any errors.

All systems must be compliant with: -

- EN50126 – The specification and demonstration of reliability, availability, maintainability, and safety (RAMS)

Where the legal framework of a Member State has the effect that the Driver Licence Register is considered to be a safety-related document, the system must be compliant with: -

– EN50128 – Rail Systems: Software for Railway Control & Protection Systems

5.3 Language

Licence and certificate issues in a non-Community language must be output by the system in bilingual form with the second language being one of the official Community languages.

5.4 Data retention

Data retention of the licence system and the certificate system is for decision of the operators of these systems, but is over-ridden by any Member State legal requirements. It is suggested that records should not be deleted in the two systems, but that a process of archiving of records should be undertaken at regular intervals.

5.5 Implementation

Licence and certificate recording and issuing systems that are established using this specification shall allow for implementation in two stages as mandated by Article 34.2. In addition, the provisions of Article 3 must be provided for.

Systems should allow for gradual application of regular checks on drivers as foreseen by Article 14 (see Article 34.4)

5.6 Cost effectiveness

Clauses 20 and 21 of the preamble to the Directive emphasises the need to avoid unnecessary administrative and financial burdens when introducing the provisions of the Directive and when drivers change employer. At the same time, Clause 14 requires the establishment of a single certification model to be mutually recognised by Member States.

Therefore when designing a system using the functions defined in this specification, the organisations concerned should ensure that the system solution is cost effective both for themselves and others, and able to deliver quantifiable benefits. Minimising the cost of development, implementation, and operation of the system is a major element in the delivery of effectiveness of the systems and their ability to deliver benefits to users. Therefore the degree of sophistication of the systems to be developed in a Member State is a matter for the competent authority of that state, and its resident railway undertakings to decide. It should be noted further, that Article 34 allows a Member State to request a cost-benefit analysis of the provisions of the Directive when applied to drivers operating exclusively within the territory of the Member State

5.7 Interfaces

Some of the functions discussed in the next two sections are man-machine dialogues (i.e. situations where a person inputs source data into the system) whereas others may be machine-machine dialogues (where two co-operating systems exchange information directly). The functions list the data items required as input to the process, but omit the interface detail (screen layouts for the former case, and message formats for the latter). Screen layouts are left to the implementer to

suit their own implementation methods: message formats for the latter case are contained in the technical specification. Appendix A contains a table which summaries the functions and their input method(s).

6. Driver licence functions

6.1 Initialise licence records database

Directive reference

Article 34 par 2 (c) and para 3.

Purpose

This function is used to initialise the driver licence records database during the implementation period within a Member State so that the records of all existing drivers currently employed on driving duties by railway undertakings within the state can be transferred to the database without drivers being subject to all the assessment procedures required for new licence applications. It is presumed that the data will be provided direct by railway undertakings and that it will be supplied in bulk by electronic means. It is a once-only process.

This function can also be used to add data to previous initialisation inputs so as to complete the driver records to allow licence documents to be issued, updates might include electronic photographs and signatures where mandated by the CA

The initialisation function permits records for licences to be created from fewer data elements than required after implementation of the system. Physical printing and issue of licences created by this function is barred until the elements that are mandated for appearance on the licence are all present.

If all the elements mandated for inclusion on the licence document are input and successfully validated, the function will trigger the printing and issue of a licence to the driver. This may occur after one or more inputs, depending on the degree of success in gathering the data to initialise the system.

Input

Inputs can only be made during the period of implementation of the system within a Member State. After this period, new licences will require use of the 'Create Licence' function

Inputs will be by one of the following methods: -

- via an electronic interface between the new CA licence system and a system used by the RU. Appropriate security measures will be required.

- submission of a suitably formatted electronic file by e-mail from the RU. Special measures to authenticate the file may be required.

The input will contain: -

- The RU Code for the railway undertaking making the application

- The name and contact details of the authorised person within the RU making the application.

- The e-mail address of the authorised person

- The date and time the application has been made
- An indicator (or flag), that the drivers' addresses are to be used for sending out the licence documents. (if not present, the RU address recorded in the register of RUs will be used to send all the licence documents in bulk, for subsequent issue by the RU to its drivers). Note: The Directive allows Member States to specify that drivers' addresses are collected. There is clearly a distinction between having a driver's address and using it for administrative purposes and showing the address on the formal documentation. The former can clearly facilitate the operation of the system, the latter may introduce inflexibility.
- Driver records for the applicant RU, consisting of a record for each driver with most of the mandatory data required for a new licence application except: -
  - Medical test results
  - Educational period and qualifications gained
  - Occupational psychological test

  Note that the above data elements can be optionally included if they are available

  And probably: -
  - Electronic photograph record
  - Electronic signature record

  Note that these two elements may not be included in all CA systems

Element	**Description**
Driver Surname	The surname (or family name) of the driver
Driver Other Name(s)	Other names of the driver
Driver Short Name	Name of driver condensed to fit onto the hard-copy licence
Driver Date of birth	Date of birth of the driver
Driver Place of Birth	City, Town, or Village of birth + State of birth
Driver Address	Postal address of the permanent place of residence of the driver
Adr1	First line of address
Adr2-n	Second and subsequent line of address
Town	City/Town/Village of residence
Region/County	Region or County

Post code	Post code of driver address (post code is only mandatory if a MS makes it so)
Country	Country code for address
Employee Reference Number	The staff number or identity allocated to the driver by his current employer
Social Security Code Country	Country that issued the social security number of the driver
Social Security Number	The social security number of the driver
Driver Photograph	A photograph of the driver holding the licence
Driver Signature	The normal signature of the driver

Processing

All message data will be checked for syntax and value range first before processing of the data continues, and errors flagged. The input will be rejected until these are corrected.

Processing will be in two stages: -

Stage 1 – the RU on the input will be checked for its presence in the system as a valid RU for creating licence records, and if in error, the whole input will be rejected.

Stage 2 – each driver record on the input will be validated for correctness of data and checked for previous presence on the database.

If a record exists, but is incomplete, the additional or replacement data on the input will be added.

If the additional data completes the record, the licence will be placed in 'Valid' status and the 'Issue Licence' function will be triggered, and a message output to this effect.

If no record exists, and all data necessary for establishing the licence record and issuing of the licence is present in the input, a licence record will be created, and the 'Issue Licence' function triggered, and the licence placed in 'Valid' status and a message output to this effect.

If the elements necessary for appearance on the licence document are missing, but are sufficient to identify the driver uniquely to allow additional data to be added later, a record will be created in 'Pending' status waiting further initialisation inputs, or direct entry to the system by the RU to add the missing data. A message advising the record is incomplete will be output. The minimum data considered essential to subsequently identify a record for completion are: -

Employing RU	The RU employing the driver
Employee Reference Number	The staff number or identity allocated to the driver by the inputting RU
Driver Surname	The surname (or family name) of the driver
Driver Other Name(s)	Other names of the driver
Driver Date of birth	Date of birth of the driver
Driver Place of Birth	City, Town, or Village of birth + State of birth

Each licence record created in the database will contain the data provided in the input, and in addition, the following system-generated data: -

Licence Record Number	Format to be decided
Licence creation date	DDMMYYYY HRMN
Licence status	Pending, or Valid
Licence Issue Date	When the input data is sufficient to allow a licence to be issued
Licence Issue Number	Value 01
Licence Issue Reason	The reason for issuing the current licence (First Issue)
Licence Expiry Date	The date on which the licence will expire

Output

The output will be a printout (or suitable electronic file) containing: -

- Details of the applicant RU
- Name of authorised person in the RU
- A summary, by driver name in the order of the input, of the licences created and either issued, or pending awaiting further data, including the unique record number allocated to the driver by the system.

Where the input is in error the output will contain: -

- reason for rejection, either of the whole input, or that of individual drivers.

Where the input is incomplete, (for individual drivers), the output will also contain: -

– warning message together with the licence number of the incomplete record created in the system, with a list of the missing elements.

Where required, the output can be sent electronically either as an intrinsic component of the interface between the CA and the RU, or via e-mail to the recipient nominated on the input.

Business Rules

- the applicant RU and its data must be recorded as a valid RU in the register of RUs in the CA system
- the applicant RU must be authorised to make initialisation inputs.
- the driver name must not already be recorded on the database as having a licence issued, i.e all the drivers data has already been recorded in the database and a licence issued to him.
- The driver social security number must be unique for the defined country code
- if absent on the input, the dates of last medical and other tests in the new driver record must be set to the input date, and marked as 'Pass'.

6.2 Create new licence record

Directive reference

Article 12.1, 12.2, & 12.3

Purpose

This function creates a new licence record following: -

- An application from an individual person for a licence. In such cases, a partial electronic method will be used to avoid the need for production and distribution of application forms by the CA
- An application from a railway undertaking for the granting of a licence to a driver employed by them. All such applications are expected to be made electronically

On completion, a record is created ready for a licence to be issued, (when all mandatory data has been provided). When the data is incomplete, the record will be created and placed in 'Pending' status when it can be updated by the CA, the RU, or the applicant to add missing data, then approved, (or declined) by the CA or the RU A complete and validated record will then trigger the issue of the licence document.

Note 1: Applications from individuals must be validated (and approved), by the CA only.

Input

Input can be made at any time

The input will be made by one of the following methods

– Entry by the applicant personally using a web-based entry form of the CA system. In such

cases, the applicant will be required to subsequently send to the CA by post the relevant documents supporting his application together with a print-out of his completed application form for authorisation by the CA

- Entry by the RU using a web-based entry form of the CA system, (and protected by password, and use of memorable data security).

- via an electronic interface between the CA system and a system used by the RU. Appropriate security measures will be required.

- Entry by a CA operator on receipt of a completed application form and original documentation from the applicant.

- Submission of a suitably formatted electronic file by e-mail from the RU. Special measures to authenticate the file may be required.

The input will contain: -

- Date and time of the input

- Application RU (for application by an RU only)

- Name and contact details of authorised person in the RU (for application by an RU only)

- E-mail address of the person (entries made by RUs or individuals only)

- Licence destination indicator – either 'RU' or 'Driver' for applications made by RUs only. (RU code must be present on the input).

- The minimum mandatory details required for the recording of an application prior to the issue of a licence document. : -

Element	**Description**
Driver Surname	The surname (or family name) of the driver
Driver Other Name(s)	Other names of the driver
Original name	The surname of the driver at birth (where applicable)
Driver Short Name	Name of driver condensed to fit onto the hard-copy licence
Driver Date of birth	Date of birth of the driver
Driver Place of Birth	City, Town, or Village of birth + State of birth
Driver Address – the postal address of the permanent place of residence of the driver	
Adr1	First line of address

Adr2-n	Second and subsequent line of address
Town	City/Town/Village of residence
Region/ County	Region or County
Post code	Post code of driver address (post code is only mandatory if a MS makes it so)
Country	Country code for address
Driver Photograph	A photograph of the driver holding the licence
Driver Signature	The normal signature of the driver
Education	
Educational requirements met flag	The inputting body vouches that the requirements of the Directive have been met, or
Education Start Year	The year within which the education of the driver commenced
Education End Year	The year within which the education of the driver ended
Education Level	The education level achieved by the driver at the end of education period
Requirements Test Result	The result of the test for assessing the general professional knowledge and requirements required for the granting of a licence
Requirements Test date	The date of the last Requirements Test
Physical Fitness	
Medical Examination interval	The interval at which a medical examination is required
State of General Fitness	General fitness to drive of the driver
Last Medical Exam Date	The date at which a medical fitness exam was last done.
General Fitness Text	Description of the health of the driver
Eye test Date	Date of the last eye and sight test
State of vision of the driver	Result of test (Pass or Fail)
Hearing test date	Date of last hearing test
State of Hearing &	Decision of suitability as a result of hearing or speaking test (Pass/Fail)

Speaking	
Blood/Urine Test Decision	Decision of suitability as a result of a blood or urine test
Electro-Cardiogram test decision	Decision of suitability as a result of an electrocardiogram test
Psychotropic Substances test	Decision of suitability as a result of a psychotropic substances test
Cognitive test	Decision of suitability as a result of a cognitive ability test
Communication test	Decision of suitability as a result of a communication ability test
Psychomotor test	Decision of suitability as a result of a psychomotor ability test

Processing

All message data will be checked for syntax and value range first before processing of the data continues, and errors will be flagged and output.

Note that it is expected that if there are web-pages, (or other similar input dialogs), in the system permitting the creation of a new record, they will contain the appropriate syntax and value range checks, the input will be rejected until these are corrected.

Processing will be in two stages: -

Stage 1 –(for RU applications), the RU on the input will be checked for its presence in the system as a valid RU for creating licence records, and if in error, the whole input will be rejected.

Stage 2 – The create request will be validated and checked for previous presence on the database.

If a licence record already exists the input will be rejected.

Stage 3 – the create request will be processed and the data validated

If the application is by an individual applicant using the CA system web-pages, once the mandatory data has been entered by the applicant, the application will be flagged as requiring authorisation by the CA, and the record placed in 'Pending' status. A message will be output to the applicant advising him his application has been accepted and that he must now submit the necessary supporting documents together with a copy of his application (web-printout).

If the application is entered by the CA (on behalf of an individual or an RU), or by an authorised RU, and all data necessary for establishing the licence record and issuing of the licence is entered, a licence record will be created, the licence will be placed in 'Valid' status and the 'Issue Licence' function triggered, and a message output to this effect. When invoking the 'Issue Licence' function, the destination location of the licence document will be stated using the indicator on the input. This enables the licence to be sent to either

the RU, for issue to the driver at his place of work, or to the address of the driver.

Each new licence record created in the database will contain the data provided in the input, and in addition, the following system-generated data: -

Licence Record Number	For format – see Technical Specification
Licence creation date	DDMMYYYY HRMN
Licence status	Pending, or Valid
Licence Issue Date	For licence status = Valid
Licence Issue Number	Value 01
Licence Issue Reason	The reason for issuing the current licence (New Licence)
Licence Expiry Date	The date on which the licence will expire
Licence destination	Set to 'RU' or 'Driver' (an RU code must be present, else defaults to 'Driver'

Output

Where the input has been made by the RU on behalf of the applicant, and all the mandatory information for a licence issue has been received, (such as an application made by an RU which contains medical testing details and results) the function will cause the licence to be issued.

For applications by individuals or RUs input via a web interface, the response will be both on the web-pages used by the applicant, and also to the e-mail address entered. This will contain a summary of the information on the input, plus the Driver Number (or other record number) allocated by the system, and advice on what other actions the applicant must undertake, such as submission of hard copy medical and other test documents. The authorisation table referred to above may be used to permit applications by RUs on behalf of their staff to move straight to the licence issue stage. Otherwise, final completion of the record and issue of the licence document will then await submission of documentation to the CA.

A list of pending licence applications will be maintained in the system ready for the CA to issue the licence having been satisfied with the documents.

Business Rules

- Only a single licence can be issued to an applicant by the CA of a Member State
- A licence record can only be created if the following minimum data elements are present on the application: -
    - Driver Name (surname and other names)
    - Driver address (to include country of residence and postcode) (some Member States do not postcode their addresses, post code is only a requirement where the

MS makes it so.).

- Date of birth
- Place of birth

- Only applicants aged 18 years or over can hold driver licences (see Art 8)
- Applications can be made before an applicant reaches the age of 18, but the licence document can only be issued when the applicant reaches the age 18.
- Applicants aged 18 years, but under 20 years can only be licenced for the territory of the issuing Member State

6.3 Renew a licence

Directive reference

Article 12.3

Article 20.1(a)

Purpose

This function allows an individual licence holder, or an RU on the holder's behalf, to request the renewal of a licence prior to its expiry. The function also allows the CA to trigger the renewal of a licence prior to or after its expiry on receipt of a completed renewal form if the applicant has no access to the licence system.

On acceptance of a renewal application, a new licence document will be issued to the licence holder, containing a new renewal date. The criteria for renewal are a matter for the CA to decide, but could include proof of fee payment, the need for medical test results etc. Where documents have to be submitted by individual applicants to the CA before a licence can be renewed, the process is similar to that for a new licence application by which the CA must authorise the application before the licence document can be issued.

Input

The user will be required either to select a licence from a list of licences flagged for renewal, or to enter a licence number and the driver name and date of birth to ensure the correct licence is identified that is to be renewed. As an alternative, where CAs have established systems that issue renewal notices containing a renewal reference number, this can be used instead of the above to first display the driver licence details, then allow renewal to be invoked.

Element	**Description**
Licence Number Or Renewal Reference number	Identifies the licence flagged for renewal
If licence number is quoted -	
Driver Surname	Validation for the correct licence
Driver date of birth	Validation for the correct licence

Processing

The input will be checked for validity against the business rules, and if these have been satisfied, the 'Issue Licence' function will be triggered.

When the application is from an individual, and requires the CA to have sight of documents in support of the renewal application, the licence will be flagged as requiring CA authorisation in the same way as that for a new licence application.

The system will update the appropriate data in the record

Licence Issue Date	The date of renewal
Licence Issue Number	Incremented by 1 from previous value
Licence Issue Reason	The reason for issuing the current licence (Renewal)
Licence Expiry Date	The date on which the licence will expire

Output

Apart from a message that the renewal entry has been accepted,(or rejected), there is no other output. The licence document will be output as part of the 'Issue Licence' function triggered from this function.

Business Rules

- A renewal application must be accompanied by any other relevant mandatory requirements such as medical tests and results documents. Where the competent authority so decides, railway undertakings may be allowed to vouch for their employees and provide data (direct interface, file transfer or web-input) to renew the licence.

- A licence can only be renewed if it has been flagged in the system as requiring renewal. This will normally be a defined period before the licence expires (6 months is suggested), so that the licence holder can arrange, and attend any medical and other checks needed before renewal can be granted.

- A renewed licence will be valid for the defined validity interval permitted by the CA.

6.4 Replace a licence

Directive reference

Article 12.6

Article 20.1(a)

Purpose

This function is used by the CA to issue a replacement, (or duplicate), licence when the licence holder reports that the original licence has been lost, stolen, or damaged preventing normal use. In this case the expiry date remains unchanged from the original licence. The reason for the issue of a duplicate licence must be entered, plus any supporting data, such as text describing the circumstances, the date of the event, and the police incident number in the case of a stolen licence.

Only authorised CA or RU users can trigger the replacement of a licence, applications from individuals require the replacement to be authorised by the CA.

Input

The user will be required to select a licence from a list, or to enter a licence number and the driver name and date of birth to ensure the correct licence is identified that is to be renewed or replaced.

Element	**Description**
Licence Number	Licence number to be replaced
Driver Surname	Validation for correct licence number
Driver date of birth	Validation for correct licence number

The system will display the licence details for confirmation of replacement and allow entry of circumstances as follows: -

Replacement Reason code	Code indicating reason a replacement has been requested: - – Lost – Stolen – Damaged beyond use
Location of incident	Location where licence was lost, stolen or damaged
Date of incident	
Time of incident	
Descriptive text	Optional

Processing

The input will be checked for validity against the business rules, and if these have been satisfied, the 'Issue Licence' function will be triggered.

When the application is from an individual, and requires the CA to have sight of documents in support of the replacement application, such as a police report, or the damaged licence itself, the licence will be flagged as requiring CA authorisation in the same way as that for a new licence application.

The system will update the appropriate data in the record

Licence Issue date	The date of the replacement
Licence Issue Reason	The reason for issuing the current licence (Replacement)
Replacement Reason	Code indicating reason a replacement has been requested: - – Lost – Stolen – Damaged beyond use
Location of incident	Location where licence was lost, stolen or damaged
Date & time of incident	
Descriptive text	Optional

When triggering the function 'Issue Licence' the system will indicate that the licence to be issued is a replacement, so that this function can, if the CA mandates, print a comment, (or code), on the licence document to indicate that it is a replacement licence.

Output

Apart from a message that the renewal or replacement entry has been accepted,(or rejected), there is no other output. The licence document will be output as part of the 'Issue Licence' function triggered from this function.

Business Rules

- A replacement licence can only be issued if the reason for its replacement, and the circumstances, is entered and recorded by the system at the time of the input.
- A replacement licence will have the same expiry date as the original licence.

6.5 Update a licence record

Directive Reference

Article 12.3

Article 20.1(a)

Purpose

This function allows an authorised person within the CA to: -

- update a licence record to reflect changes after the first issue of a licence, such as changes of

address, etc

- update the medical and other test results data on receipt of periodic medical reports from individual drivers or from RUs on their behalf.
- add or amend data to records prior to approving licence applications, such as the results of medical tests on receipt of the medical reports from the applicant, addition of electronic photographs,etc.
- report the engagement of a driver by a new employer † or his resignation
- change the destination of licence issues (Send to RU, or Send to Driver)
- report a lost or stolen licence as recovered

CAs may permit railway undertakings to input data directly. (using the table of RUs referred to above)

Input

Inputs can be made at any time

Inputs will be made via the display for viewing a record. This display will mark missing mandatory elements, and also allow existing elements to be altered. Where elements are based on code tables, a drop-down list will be available for selection.

Element	**Description**
Driver Surname	The **new** surname (or family name) of the driver
Driver Other Name(s)	Other names of the driver
Previous name	The surname of the driver at birth
Driver Short Name	Name of driver condensed to fit onto the hard-copy licence
Driver Address	Postal address of the permanent place of residence of the driver
Adr1	First line of address
Adr2-n	Second and subsequent line of address
Town	City/Town/Village of residence
Region/ County	Region or County

Post code	Post code of driver address
Country	Country code for address
Licence Expiry Date	The date on which the licence will expire Can be reduced by the CA if required due to medical or other reasons
Licence Recovery Date	Date a lost or stolen licence was reported found or recovered.
Licence Recovery Action	R- returned to driver, duplicate not issued D – retained by CA, duplicate already issued
Employee Reference Number	The staff number or identity allocated to the driver by his current employer
Driver Photograph	A photograph of the driver holding the licence
Driver Signature	The normal signature of the driver
Education	
Education Start Year	The year within which the education of the driver commenced
Education End Year	The year within which the education of the driver ended
Education Level	The education level achieved by the driver at the end of education period
Requirements Test Result	The result of the test for assessing the general professional knowledge and requirements required for the granting of a licence
Requirements Test date	The date of the last Requirements Test
Physical Fitness	
Medical Examination interval	The interval at which a medical examination is required
State of General Fitness	General fitness to drive of the driver
Last Medical Exam Date	The date at which a medical fitness exam was last done.
General Fitness Text	Description of the health of the driver

State of vision of the driver	The vision of the driver equals or exceeds the standard
State of Hearing & Speaking	The result of the tests for the state of hearing or speaking of the driver
Blood/Urine Test Decision	Decision of suitability as a result of a blood or urine test
Electro-Cardiogram test decision	Decision of suitability as a result of an electrocardiogram test
Psychotropic Substances test	Decision of suitability as a result of a psychotropic substances test
Cognitive test	Decision of suitability as a result of a cognitive ability test
Communication test	Decision of suitability as a result of a communication ability test
Psychomotor test	Decision of suitability as a result of a psychomotor ability test

Processing

Processing will update the licence record with the input data. Where driver test results are being updated as a result of the licence holder having undergone the mandatory periodic tests, the test date entered must be later than the existing entry, and in addition, must be on or around the expected date calculated from the previous date and the prescribed interval for the test concerned. The period within which tests are considered valid will be configurable to suite individual CA requirements.

Once the data has been successfully input, any missing or altered element now on the record, which also appears on the licence document shall trigger the 'Issue Licence' function to send a fresh licence to the driver.

If a licence is issued because of use of this function but one is already issued, it represents a replacement and will therefore have the same expiry date as the original. In this case, the system will automatically enter the replacement reason 'Revision', before triggering the 'Issue Licence' function.

When test results are entered representing a failure to pass the test, the licence will be automatically placed into 'Suspended' status, and an advice sent to the address of the driver, and to his employer(s).

Output

Output will confirm the changes have been made by displaying the full licence record with the changes highlighted to the operator.

Where the licence has been suspended, this will also be stated on the output as a warning.

Business Rules

- the following data elements cannot be amended: -
    - licence record number
    - date of original issue of the licence
    - expiry date (this is done automatically on renewal of a licence)
    - original name of driver (name at birth)
    - date of birth
    - place of birth
- A licence has to be reported as lost or stolen before a report of its recovery can be accepted.

6.6 Approve a licence application

Directive reference

Articles 8 and 9

Purpose

This function allows an authorised person within the CA to approve a individual application for a licence after the data has been input by the applicant and initially validated by the system. Individual applications will normally be made via the CA system web-application pages therefore the application must be validated after receipt and approval of supporting documents.

Applications where all the driver data is entered to the system by CA staff using the 'Create Licence Record' function following receipt of a completed hard-copy application form will not require approval.

Input

Input is the licence number to be approved.

Processing

The system will change the status of the licence from 'Pending' to 'Valid' then trigger the 'Issue Licence' function.

If the application has been made on behalf of the driver by his employer, an e-mail will be sent to the nominated e-mail address of the RU confirming licence issue. If the CA rules permit, this can be used as the basis for the driver to commence driving until arrival of the physical licence.

Output

Output consists of confirmation that the licence has been approved.

Business rules

- The licence must be flagged as ‘Pending’
- All mandatory elements must be present
- Driver test results must all indicate ‘Pass’

6.7 Change the status of a licence

Directive reference

Article 12.5

Article 17(c)

Article 20.1(a)

Purpose

This function allows an authorised person within the CA to change the status) of a licence. (see below It also allows the system to automatically change the status of valid licences to expired status if the expiry date has passed, or if the mandatory medical and other checks are not reported as completed and passed within the defined timescales.

A licence may have the following statuses: -

- Pending – an application has been received for the licence but is waiting for further data to be added before issue.
- Valid – the normal status for a licence within its period of validity
- Expired - no renewal received by the licence expiry-date, or medical test date periodicity is over the defined time.
- Suspended – the system of the CA has suspended the licence (e.g failed medical tests)
- Withdrawn – the CA have withdrawn the licence

Input

The input can be made at any time. Each day the system will trigger this function for licences that expired on the previous day to set the status to ‘Expired.

This function is also triggered as a result of use of the function ‘Update a Licence’ when entering the results of periodic medical tests, which represent failures to pass the tests

The input consists of: -

- Licence number
- New status of the licence

Processing

Processing will change the licence status to that entered on the input.

Output

Messages will be sent to the driver and the RUs employing him when status changes have been made.

Business Rules

The following decision table shows the changes of status that can be made and by whom.

Note that a licence in Pending status cannot be changed using this procedure as it applies to new licence applications only, during the period before the licence is issued.

		New Status			
		Valid	Expired	Suspended	Withdrawn
Current Status	Valid		Automatic by system	Authorised CA operator	Authorised CA operator
	Expired	Renewal		Authorised CA operator	Authorised CA operator
	Suspended	Authorised CA operator	Automatic by system		Authorised CA operator
	Withdrawn	Authorised CA operator	Automatic by system	Authorised CA operator	

Note: If an operator releases a suspended or withdrawn licence in order to re-validate the licence for use by the driver, the system will automatically assess whether the licence has reached its expiry date or not, and if the expiry date has been passed, will apply 'Expired' status.

6.8 Archive or Delete a licence record

Directive reference

None

Purpose

This function allows an authorised person in the CA to delete a licence record from the system database when national criteria determine that it may be deleted. These circumstances may

include: -

- The death of the licence holder

- Other circumstances defined by the CA, (retirement, age-limit reached etc).

Deletion may also be provided to operate automatically (twenty years after the last active record for example).

It is recommended that if there is to be data deletion then it is only carried out as part of a data archiving process so that the driver record may be subsequently obtained by special request from an authorised body, such as the ERA

Note that this function is not mandatory, there being no Directive mandate for it. System designers must consider the legal and regulatory environment of the Member State prior to any decision to incorporate this function.

Input

The input will normally be made automatically by the system at regular intervals (half-yearly etc) to extract those licences with expiry dates exceeding a defined period.

Output

Output will confirm the deletion/archiving of the licences by licence number

Business Rules

Only expired or withdrawn licences can be archived.

6.9 Issue driver licence document to driver

Directive reference

Article 12.6

Article 17.1 (a)

Purpose

This function is automatically triggered when: -

- The criteria for new licence issues are satisfied (record complete and correct)

- the data displayed on a valid licence document in the possession of the driver has been amended: -

    - driver name (e.g. following marriage)

    - driver address (where the CA requires address to be shown)

    - driver photograph (aging, beard, etc)

- signature changed

- the licence is renewed.

- the licence holder reports a licence as lost, stolen or damaged beyond use and a duplicate is requested.

Input

Input is flagged from other functions which require the issue of a fresh licence document. Inputs can be received at any time, but a batch production process will normally be used to print the licence documents for issue to drivers. A daily or weekly process is recommended.

Input will consist of:-

- licence record number

and for licences replaced because of report of loss, stolen, or damaged-beyond-use

- duplicate flag

Output

Output is a physical licence document for issue to the driver by post. Note that for applications made by RUs on behalf of drivers, the registered address of the driver may be over-ridden at the discretion of the CA and the licence sent via the RU instead.

Duplicate licences will display a code, or the word 'Duplicate', on the licence document to indicate that the original has been lost, stolen or damaged. (CAs to decide the format)

The licence document will display a sub-set of the licence record data.

Directive Mandate	**Mandatory/Optional**	**Comment**
Driver surname	mandatory	Driver short name to be used, if present, as this indicates the name exceeds the space available on the licence.
Driver other names	mandatory	
Date of birth of driver	mandatory	As per record
Place of birth	mandatory	As per record, but needs to include country of birth
Licence issue date	mandatory	Issue date of the particular issue number, not the date of the first issue.
Licence expiry date	mandatory	As per record
Issuing authority name	mandatory	System generated

Employee reference number	optional	As per record Note that a driver may be employed by more than one RU.
Licence number	Mandatory	As per record
Driver photograph	Mandatory	As per record (jpeg or other standard)
Driver signature	Mandatory	As per record (jpeg or other standard)
Driver address	Optional	As per record

Business Rules

The function cannot be triggered directly, it must be triggered from other functions.

6.10 Licence record enquiry

Directive reference

Article 16.1

Article 17.1 (h)

Purpose

This function allows: -

- individual licence holders to view their own licence record (in this case a request is made for the record to be printed and sent by post to the holder's registered address)
- authorised users within an RU to view the licence records of drivers employed by the RU.
- authorised users within the CA to view the licence records of any driver.
- authorised users within the CA to view the licence records of any driver prior to supplying that data to the CA of any other Member State, or to the ERA.

Input

Input may be made at any time.

The input is designed to allow either a single record to be displayed, or a choice of licence records. because the input criteria identify a single licence record, OR a list of licences meeting the criteria together with other data elements such as names and address, with selection allowed of any licence record to cause that licence record to be displayed

Input will therefore consist of a choice of parameters. At least one parameter must be entered: -

- Driver surname
- Driver first name(s)
- Date-of birth
- Place of birth
- Address line or lines

If the licence record number is already known, this may be entered.

Output

Output will consist of a list of licences meeting the criteria together with other data elements such as names and address, with selection allowed of any licence record to cause that licence record to be displayed.

Where the input is for a single licence number, that record will be displayed, effectively bypassing the list display.

Printing of the record will be available to allow the record to be sent to any driver requesting access to his record.

A facility to e-mail the output will be also be made available for use by the CA when a request has been received by another CA or by the ERA for a copy of the licence record.

Business Rules

- Entry is allowed by CA or RU operators
- An RU may only view records for drivers within its employ
- CA operators may view any licence record.

7. Register of complementary certificates

7.1 Coding of traction and infrastructure

This section is concerned with coding issues. Although coding issues may at first sight seem peripheral, the choice of coding structure can make the difference between a system which works and one which does not, a system which adds value and one that only adds cost. The consultants make no apology therefore for outlining the issues involved.

7.1.1 Coding of traction types

There are a number of approaches to showing the rolling stock types which drivers are entitled to drive. Large railways classify their traction types (class XXX etc) and as the locomotive and rolling stock industry reorganises into larger groups it may be expected that increasingly locomotive types will become standard across Europe (electric locomotives made by Siemens and diesel locomotives made by General Motors come to mind). All too frequently however sub-classes are introduced with different power units, transmissions and particularly bespoke signalling interfaces. The question arises of how detailed the coding of traction types should be. If it is too detailed then there is a risk of confusion between traction types and certainly more work in keeping certificates up to date.

The practical experience of the German system which found that defining locomotive class was too restrictive may also have lessons. There is an essentially practical question, where locomotive controls are standard and driving techniques very similar, a reference to “electric locomotives” may be entirely adequate. It is noticeable that a number of states have adopted a simple classification (diesel, electric, etc).

Therefore the coding structure used on the certificate issued by the RU is most sensibly designed by the railway undertaking itself. Only the railway undertaking has first hand knowledge of its traction and every interest in devising a sensible coding structure to indicate competence. There is, of course, an issue of regulatory approval of the structure used, bearing in mind that the certificate is intended to provide evidence of competence in states other than the home state. Likewise some coherence between the codes used by various undertakings is desirable. Co-ordination of coding structures is not an absolute (or only a European wide coding structure could be adopted) but the coding structure must be clear and unambiguous wherever it is used.

The consultants recommend that this is an issue to be left to individual Member States and their railways to find an appropriate, but safe, solution. The consultants therefore propose that the various railway undertakings devise the codes they propose to use (perhaps agreeing them in national carriers’ associations) and then submit them to the regulatory bodies of the states in which they operate. Each regulatory body would be allowed to object on reasonable grounds and the ERA might exercise a mediating role where necessary. Individual regulatory bodies might well decide not to become involved or to delegate the issue to the national infrastructure manager.

The consultants propose to design the system to accommodate free form fields which can be used either for a precise or a more general categorisation.

7.1.2 Coding of infrastructure

There are two approaches to the coding of infrastructure. One approach, (that adopted in Germany, for instance), is to regard infrastructure knowledge as being knowledge of the rules and regulations that apply on that infrastructure, (the distinction between permissive and absolute signalling for example). In accordance with this view of infrastructure knowledge a "complete network" authorisation may readily be given. The complete network authorisation may of course be qualified, allowing the driver to work only on lines equipped with particular (signalling) systems. The alternative view of infrastructure is typified by the British approach in which train crews are authorised to work over specific sections of line. The definitions of the sections may be quite detailed.

These two views have implications for the design of the complementary certificate. A complete network authorisation is simple to code and to show on a certificate, even if it has to be qualified by type of signalling. By contrast showing the routes for which a driver is authorised in detail presents a challenge. Lines will have to be shown in detail and in a manner which is intelligible in the state in question. Both the volume of data and the content present particular problems if this is to be shown on the certificate document carried by the driver. Nevertheless it was this approach which was confirmed in the workshop. There are line coding structures in place in a number of countries (Belgium, for example, where the structure is deeply imbedded) but a coding structure cannot be relied on (or may not be appropriate for this purpose). The alternative to a coding structure is meaningful text, given the need to show what might be a significant amount of detail; abbreviated text is likely to be essential. By contrast to the traction issue (above), the entity with the best infrastructure knowledge and one with a direct interest is the infrastructure manager. Indeed if an alternative is to code infrastructure knowledge using the infrastructure manager's coding system, then it is wholly consistent to adopt a text system devised by the infrastructure manager as an alternative.

It is therefore recommended that infrastructure knowledge is coded or shown as (abbreviated) text using a coding structure or formulation proposed by the infrastructure manager. By default, if the infrastructure manager proposes no coding structure or text, then railway undertakings should be free to use any coding or text which appears clear to them. In extremis, the consultants believe the regulatory authority of the state in question has a right and duty to insist on a formulation which is clear.

The consultants will design this field to accommodate plain text.

7.2 Initialisation

Note that this specification defines no initialisation function for the certificates system

The reason for omitting such a function, (a key function for the licences system), is that whilst the licence systems will be totally new in each member State, there are already systems in place in most RUs that record driver competencies. In addition, each RU will maintain its own system for certificates rather than supply data to an external system. It is likely, therefore that these systems can, with suitable modification, be used to support the recording and issue of certificates, and if not, any new system and its initial population is entirely a matter for the RU developing the system.

7.3 Create new certificate record

Purpose

This function creates a new certificate record following a driver passing the appropriate tests to allow him to drive trains for the RU concerned

On completion, a record is created ready for the certificate to be printed.

Input

Input can be made at any time

- The input will be made by an authorised user of the certificate records system in use in the RU

The input will contain: -

- Date and time of the input

- The minimum mandatory details required for the certificate document: -

Note 1: where a CA and the RUs within its territory have established an electronic interface to exchange licence and certificate data, the elements below relating to the licence can be generated by the system using data passed to it from the CA licence system.

Note 2 : Where an RU has a suitable system in place, much of the data on this input could be automatically entered from the system to the input. The authorised user making this input then effectively takes on a certificate approval role.

Licence Number	The number of the licence issued to the driver
Driver Surname	The surname (or family name) of the driver
Driver Other name(s)	o
Driver Short Name	Name of driver condensed to fit onto the hard-copy certificate
Driver Date of birth	Date of birth of the driver
Driver Place of Birth	City, Town, or Village of birth + State of birth
Driver Address -Postal address of the permanent place of residence of the driver	
Adr1	First line of address
Adr2-n	Second and subsequent line of address
Town	City/Town/Village of residence
Region/ County	Region or County

	Post code	Post code of driver address
	Country	Country code for address
Driver Photograph		A photograph of the driver holding the licence
Driver Signature		The normal signature of the driver
Certificate Category		The category of driving work the driver is entitled to carry out
Safety Training Date		Date on which training in the RU (or IM) safety management system was successfully completed
Rolling Stock knowledge		
	Rolling Stock Type(s)	The rolling stock type that the driver is authorised to drive
	Rolling Stock Competency date	Date at which the certificate holder was passed as competent to drive the defined rolling stock
Infrastructure knowledge		
	Infrastructure Description or code	The infrastructure that the driver is authorised to drive over
	Working language of Infrastructure	The working language of staff engaged in operating and maintaining the infrastructure listed on the certificate
	Infrastructure Pass date	Date that the driver was passed as competent to driver over the defined infrastructure
Information & Restrictions		Test describing any additional information related to the certificate and any restrictions imposed on the certificate and its holder
Language Skills of driver		
	Language Code	The language code of the driver
	Language skill level	The skill level of the language competency of the driver

Processing

Processing will validate that any previous certificate record that exists for the driver is shown as 'Cancelled'. (previous records may still be present in the database after the driver has left employment, and has become re-employed by the RU again)

The data will then be validated and if all elements pass validation, a new certificate record will be created in the system.

The system will generate and populate the following elements as part of the certificate record: -

Certificate Number	See Technical Specification for format
Certificate Creation Date	The date of creation of the certificate
Certificate Issue Date	Date of issue of the current certificate (if 'Issue Certificate' function is invoked)
Certificate Issue Number	From 01 onwards
Certificate Issue Reason	– New issue – Renewal – Updated – Replaced (loss, stolen, damaged)
Certificate Status	The current status of the certificate
Certificate Status Date	Date the current certificate status was applied
Certificate Status Reason	Reason the current certificate status was applied
Certificate Expiry Date	The expiry date of the current certificate

Output

The system will display a response to the operator indicating the success (or otherwise) of the entry together with the record as created, and for inputs in error, the data in error and the reason for its rejection. (Normal webpage-type inputs will be used and data in error marked on the page in red).

A successful input will cause a prompt to invoke printing of the certificate to be displayed.

Business Rules

- Only a single certificate can be issued to a driver employed by the RU, (although a driver may hold two or more certificates if working for more than one RU).
- An RU must issue a certificate to a suitably qualified driver even though the competencies defined in the certificate are present on any certificates issued by other RUs.

7.4 Update a certificate record

Purpose

This function allows an authorised person within the RU to: -

- add to or amend the traction or infrastructure knowledge of the driver in accordance with the RU safety management system for drivers.
- update a certificate record to reflect changes after the first issue of a certificate, such as changes of address, etc
- update the medical and other test results data on receipt of periodic medical reports arranged by the RU as part of its safety management system for train drivers

Input

Inputs can be made at any time

Inputs will be made via the display for viewing a record. This display will mark missing mandatory elements, and also allow existing elements to be altered. Where elements are based on code tables, a drop-down list will be available for selection.

Processing

Processing will validate the data on the input, and if all elements pass validation, a the certificate record will be updated

If any data elements are in error the input will be returned to the operator with the errors marked in the same way as when creating certificate records.

Output

Output will confirm the changes have been made by displaying the full certificate record with the changes highlighted to the operator

If any of the updated elements appear on the certificate document, a prompt will be displayed to allow the operator to invoke printing of the certificate with a new issue date.

Business Rules

- the following data elements cannot be amended: -
    - certificate number
    - date of original issue of the certificate
    - date of birth
    - place of birth

7.5 Change the status of a certificate

Purpose

This function allows an authorised person within the RU to change the status of a certificate.

This function can also be used where a CA and the RUs in its territory have agreed to exchange licence and certificate information electronically using an interface. In this case, if a CA suspends or withdraws a licence, the RU may allow this to be reflected in the certificate record and amend the record appropriately.

The certificate statuses are: -

- Valid – the driver has passed the appropriate traction and infrastructure training tests, and is currently employed and driving trains for the RU within the date range defined on the certificate
- Expired – the certificate has expired because its end-date has been exceeded
- Suspended – the certificate has been suspended by the RU because the driver has become unfit to driver, OR the licence has been suspended by the CA, but the driver remains employed by the RU on non-driving duties
- Cancelled – the certificate has been cancelled by the RU because the driver has left its employ, OR the licence has been withdrawn by the CA but the driver remains employed by the RU on non-driving duties.

Input

The input can be made at any time.

The input consists of: -

- Data and time of the input
- The certificate number
- The new status of the certificate

The operator will first display the certificate using appropriate search criteria to obtain the requisite record, OR enter the certificate number if known. A choice of new statuses will then be offered

Processing

The proposed new status of the certificate will be checked against the existing status and then updated in accordance with the decision table below.

		New Status			
		Valid	Expired	Suspended	Cancelled
Current Status	Valid		Automatic by system	Authorised RU operator or CA licence update	Authorised RU operator
	Expired	Renewal		Authorised RU operator or CA licence update	Authorised RU operator
	Suspended	Authorised RU operator	Automatic by system		Authorised CA operator
	Cancelled	Not allowed	Not allowed	Not allowed	

Output

Output will confirm the new status of the certificate.

Where CAs and RUs have agreed to exchange data on licences and certificates a message will be transmitted to the CA system advising the new certificate status.

7.6 Renew a certificate

Purpose

This function allows an authorised person in the RU to renew an expired certificate, or a certificate which is about to expire, so that the driver can be issued with a fresh certificate document to allow the driver to continue driving.

On acceptance of a renewal input, a new certificate document will be issued to the licence holder, containing a new renewal date. In addition, the traction and infrastructure knowledge printed on the certificate will be updated to reflect the latest records. .

Note that no validity period for the complementary certificate is defined in the Directive, this being a matter for the Railway Undertakings to decide, but must be compliant with Articles 10 and 11

Input

The user will be required either to select a certificate from a list of certificates flagged for renewal, or to enter one of: -

- the licence number of the certificate holder
- employee reference number
- driver name, date-of-birth, and place-of-birth

Processing

The input will be checked for validity against the business rules, and if these have been satisfied, the 'Issue Certificate to Driver' function will be triggered.

The system will update the appropriate data in the record

Certificate Issue Date	The date of renewal
Certificate Issue Reason	The reason for issuing the current certificate (Renewal)
Certificate Expiry Date	The date on which the certificate will expire

Output

Apart from a message that the renewal entry has been accepted,(or rejected), there is no other output. The certificate document will be output as part of the 'Issue Certificate to Driver' function triggered from this function.

Business Rules

- A renewal application can only be accepted if the relevant mandatory requirements such as medical tests and results are greater than the minimum requirements defined for the certificate validity period.
- A certificate can only be renewed if it has been flagged in the system as requiring renewal. This will normally be a defined period before the certificate expires, so that the railway undertaking can arrange for the driver to attend any medical and other checks needed before renewal can be granted.

7.7 Issue certificate document to driver

Purpose

This function is used to print a certificate document and is required when: -

- a certificate is to be issued to the driver following his gaining the necessary traction, infrastructure, and language skills for driving

- on request from the driver on leaving the employ of the RU issuing the certificate: -

This function is triggered when: -

- The criteria for a new certificate issues are satisfied. (record complete and correct)

- the data displayed on a valid certificate in the possession of the driver has been amended: -
    - driver name following marriage
    - driver address (where the CA requires address to be shown)
    - driver photograph (aging, beard, etc)
    - signature changed
    - changes to traction knowledge
    - changes to infrastructure knowledge
    - changes to language skills

- the certificate is renewed.

- the certificate holder reports a certificate as lost, stolen or damaged beyond use and a duplicate is requested.

- The certificate holder leaves the employ of the RU and requests a certified copy of his current certificate.

Input

Input is either flagged from other functions which require the issue of a fresh certificate document. (an 'Issue Certificate' facility is made available to the operator following successful use of the other functions) or on request by an RU operator.

Inputs can be received at any time, but a batch production process will normally be used to print the certificate documents for issue to drivers. A daily or weekly process is recommended.

Input will consist of:-

- certificate record number

and for licences replaced because of report of loss, stolen, or damaged-beyond-use

- duplicate flag

When the input is being made following a request by the driver for a certified copy, the licence must first be placed into 'Cancelled' status.

Output

Output is a physical (hard-copy), certificate for issue to the driver at his normal place of work, or by post.

Duplicate licences can optionally display a code, or the word ‘Duplicate’, to indicate that the original has been lost, stolen or damaged.

Certified copies requested by drivers leaving employ should be printer “watermarked” with the the words ‘Certified Copy’ and the expiry date set to the date the copy is issued.

The certificate will display a sub-set of the record data as mandated by the Directive

Note that all the elements are mandatory

Directive Mandate	**Comment**
Driver surname	Driver short name to be used, if present, as this indicates the name exceeds the space available on the licence.
Driver other names	
Date of birth of driver	As per record
Place of birth	As per record, but needs to include country of birth
Certificate issue date	Issue date of the particular issue number, not the date of the first issue.
Certificate expiry date	As per record
Issuing authority name	System generated
Employee reference number	As per record
Driver Licence number	As per record
Driver photograph	As per record (jpeg or other standard)
Driver signature	As per record (jpeg or other standard)
Driver address	As per record
RU address	System generated
Driving Category	A or B (see Art 4.2)
Traction Type(s)	Codes describing authorised traction

	types of the driver
Infrastructures	Codes describing the infrastructures on which the driver is authorised to driver
Additional information or restrictions	Text
Language skills	
Language code	
Language proficiency rating	

A standard format for the certificate is proposed (see Technical Specification) but paper weight and type for the certificate is a matter for RU decision. It is likely that some form of security paper will be used, and specified for endurance. Certificates will be signed and stamped by the issuing office to authenticate them.

Business Rules

- All the data which appears on the certificate document must be present before this function can be invoked or internally triggered by the system.
- Certificates can only be issued if they are in 'Valid' status.
- A 'certified copy of a licence for a driver can only be printed if the certificate is in 'Cancelled' status.

7.8 Certificate Record Enquiry

Purpose

This function allows authorised RU users to enquire upon and view the certificates of drivers employed by the RU. This function may also be used prior to users making updates to certificates

Input may be made at any time.

The input is designed to allow either a single certificate to be displayed, because the input criteria only identifies a single certificates, OR a list of certificates meeting the criteria together with other data elements such as names and address, with selection allowed of any certificate to cause it to be displayed

Input will therefore consist of a choice of parameters. At least one parameter must be entered: -

- Driver surname
- Driver first name(s)

- Date-of birth
- Place of birth
- Address line or lines

If the certificate number is already known, this may be entered.

Output

Output will consist of a list of licences meeting the criteria together with other data elements such as names and address, with selection allowed of any licence record to cause that licence record to be displayed.

Where the input is for a single licence number, that record will be displayed, effectively bypassing the list display.

Business Rules

Printing of the certificate display using this function shall NOT be used to produce the official certificate issued to the driver.

7.9 Archive/Delete a certificate record

Purpose

This function allows an authorised person in the RU to archive and/or delete a certificate record in accordance with the RU's data retention policy. This may provide for the following criteria for data deletion: -

- The death of the licence holder whilst in the service of the RU
- Other defined circumstances (retirement, age-limit reached etc, time limit for expired certificates reached, etc).

It is recommended that RUs archive certificate data as part of the process of deletion of certificate records.

Input

Input will consist of one or more certificate numbers

Output

Output will consist of a message advising that the archiving and/or deletion has been successful (or not)

Business Rules

Only certificates in 'Cancelled' status can be deleted or archived

There must be a defined period after the date of cancellation before records can be deleted. (RU decision)

Note that this function is not mandatory, there being no Directive mandate for it. System designers must consider the legal and regulatory environment of the Member State prior to any decision to incorporate this function.

8. Licence-Certificate systems interface

Article 20.1, and 20.2 mandates the exchange of licence and certificate data between the competent authorities, railway undertakings, and the ERA. Use of electronic methods is not mandated, but if agreement is reached on this method, a standard interface for such data exchange will be beneficial.

Article 20.3 mandates that the CAs will cooperate with the ERA to ensure the interoperability of the licence and certificate registers.

Therefore, when the CA and the RUs in a member state agree to exchange licence and certificate data electronically, an interface will be established with some or all of the functions briefly described in this section. The ERA will only require to have access to licence and certificate data, it having no obligation to supply data.

The interface will allow: -

Competent Authority

- to request and upload a sub-set of the certificate data from an individual RU
- to advise an RU that a licence has expired, been suspended or withdrawn.
- to advise an RU that a licence has been re-instated and is again valid for use

Railway Undertaking

- to request and download a sub-set of the licence data for drivers by quotation of the licence number displayed on the licence.
- to advise the CA that a certificate has been granted to an individual licence holder by quoting the licence number and the certificate number.
- to advise that a previously issued certificate has expired, been suspended, cancelled, or deleted, or re-instated.

European Railway Agency

- to request and upload some or all of the certificate data held by an RU
- to request and upload some or all of the licence data held by a CA
- Promulgate European-wide data used by the systems

Appendix A - Functions and input methods cross reference

Function ref	Function name	Input method	Technical specification message reference
Error! Reference source not found.1	**Error! Reference source not found.**	Bulk data load	
Error! Reference source not found.2	**Error! Reference source not found.**	Screen or message	8.14
Error! Reference source not found.3	**Error! Reference source not found.**	Screen or message	8.5, 8.6
Error! Reference source not found.4	**Error! Reference source not found.**	Screen	
Error! Reference source not found.5	**Error! Reference source not found.**	Screen or message	8.7 (change name) 8.8 (Change address) 8.3 (start of employment) 8.4 (end of employment) 8.13 (Certificate granted)
Error! Reference source not found.6	**Error! Reference source not found.**	Screen	
Error! Reference source not found.7	**Error! Reference source not found.**	Screen	
Error! Reference source not found.8	**Error! Reference source not found.**	Screen	
Error! Reference source not found.9	**Error! Reference source not found.**	None, system internal process	
Error! Reference source not found.10	**Error! Reference source not found.**	Screen or message	
Error! Reference source not found.	**Error! Reference source not found.**	Screen	

Error! Reference source not found.	**Error! Reference source not found.**	Screen	
Error! Reference source not found.	**Error! Reference source not found.**	Screen or message (Licence status update from CA)	8.10, generates 8.11 if not intiated by message
Error! Reference source not found.	**Error! Reference source not found.**	Screen	
Error! Reference source not found.	**Error! Reference source not found.**	None, system internal process	
Error! Reference source not found.	**Error! Reference source not found.**	Screen or message	8.12