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Authorisation
Key Principles

Richard Lockett – Head of Cross Acceptance

The Fundamental Principle – A shared system

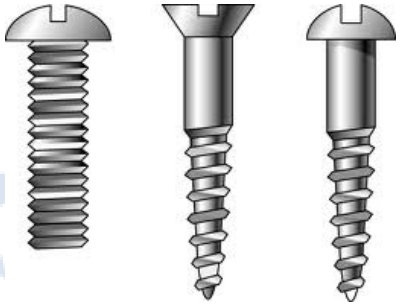
- **Railways are now “shared” systems - like roads and aviation**
- **Member States need to apply the “rules and tools” for shared system management.**
  - It is necessary to replace the existing frameworks and their concepts, definitions, roles and responsibilities
  - Overlaying the EU framework onto or adapting the old framework usually leads to problems and confusion

Why the changes? – Improving rail's competitive position

- **Market opening**
  - For operations
  - For supply of products, goods and services
- **International Operation**
- **Interoperability**
- **(Aviation and road transport have been open systems for several decades)**

Using the right tools for management of shared systems

Homologation



Vehicle Authorisation

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Key principle #1-
Each actor is responsible for what they do.

Shared systems - responsibility

Without prejudice to civil liability in accordance with the legal requirements of the Member States, each **infrastructure manager and railway undertaking** shall be made **responsible for its part of the system** and its safe operation, including supply of material and contracting of services, vis-à-vis users, customers, the workers concerned and third parties.

(Art 4 - Safety directive)

Key Principle #1

- **Each actor is responsible for what they do (i.e. what they control)**
  - RUs – (safety of) trains and their operation
  - IMs – (safety of) infrastructure
  - Ministries – framework and rules
  - NSAs – Supervision, authorisation, certificates
- **NO actor is responsible for what other actors do**
  - "*Why does everybody in rail want to do everybody else's job?" (*Brian Simpson EP TRAN Committee Chair)

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Principle #2

Horizontal Integration

Key Principle #2 – Horizontal integration through common rules and processes

- **Common rules and procedures ensure technical and operational compatibility between assets managed by different actors.**
  - TSIs for the target
  - National rules for legacy parts of the system
- **“Common” = Common – no national/project/route based interpretations, add-ons, mandatory options etc.**

What does this mean for ERTMS?

- **Government, RUs and IMs must each take their own responsibility**
  - Government (EC and Member States) must set the rules for network-vehicle interface
    - For the target system this is the TSI
    - For legacy systems this is by Notified National Rules
  - IMs projects must provide infrastructure that supports TSI conform on-board from any RU
    - No “exported constraints” or project specific requirements on vehicles.
  - RUs are responsible for their part of the system (on board)

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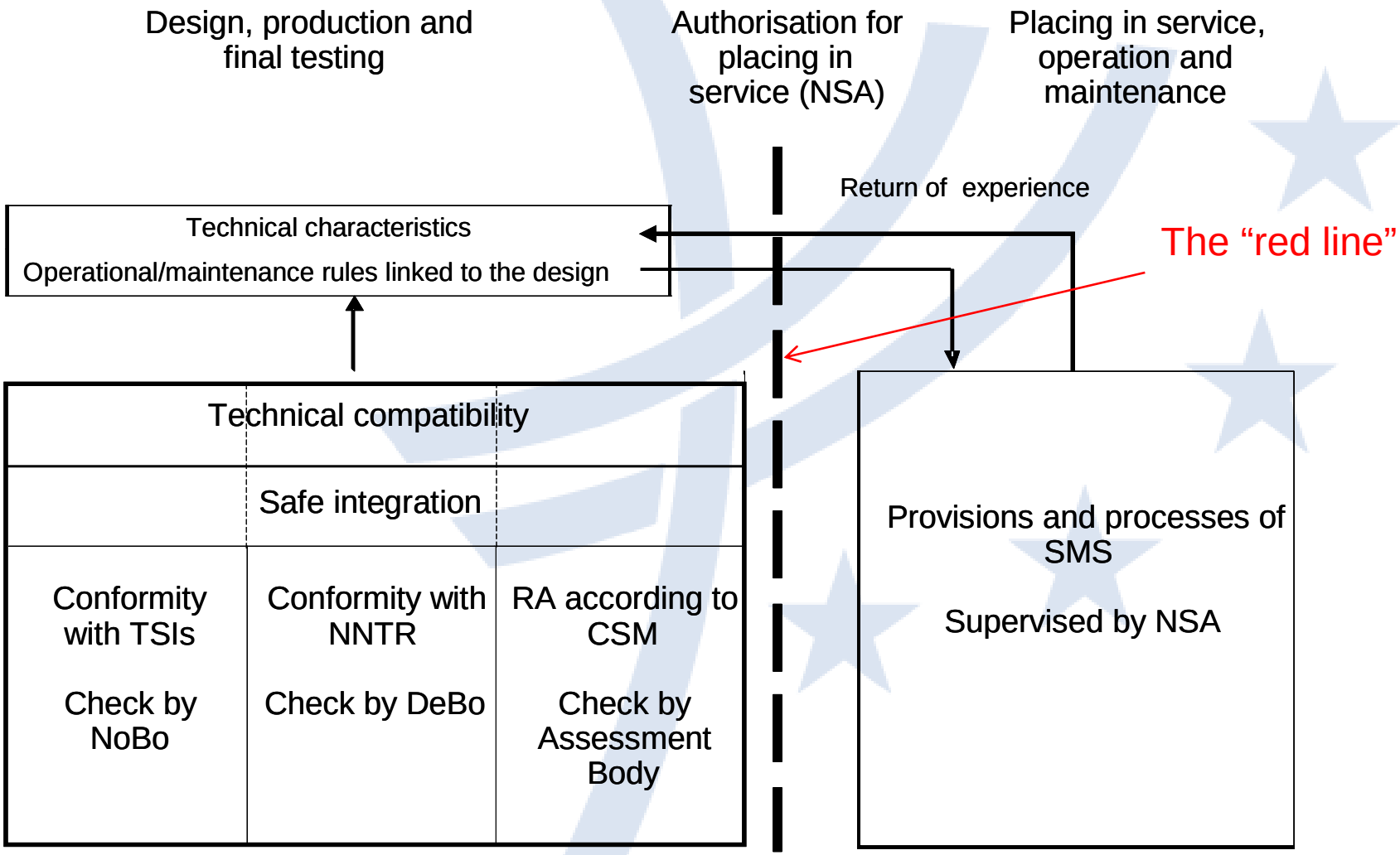
Principle #3

Separation of product authorisation from regulation of use

Key principle #3 - Separation of regulation of Authorisation from Operation



Separation of Authorisation and use

- **Products (e.g. vehicles) may be placed on the market already authorised**
  - To be ordered by many customers
    - in any quantity (good for new entrants)
  - With low risk
    - already authorised
    - proven design type (known reliability, performance, running costs etc.)
  - At low cost
    - Economies of scale – design costs shared over long runs
    - High residual value (because can be used by any RU)

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Principle #4 - Transparency

Key Principle #4 – Transparency

- **In the old days of monopoly state railways discrimination was mandatory: now it is illegal.**
- **To avoid discrimination, transparency of requirements, rules and procedures is necessary**
  - EC and Member States must take on the role of rule setter and "clean up" the rule base
- **Decision making must ensure**
  - "same as the other guy"
  - "same as before"

Transparency (2)

- **This means requirements, rules and procedures must be**
  - Repeatable
    - - same result for the same input every time
  - Certain
    - not changing over time or
    - Different according to different individual's judgement
  - Verifiable by an independent 3rd party
    - NoBo, DeBo, CSM Assessment Body
- **No more is "*show me a safety case and make me happy*" a viable way to verify compatibility**

The Triangle of Transparency

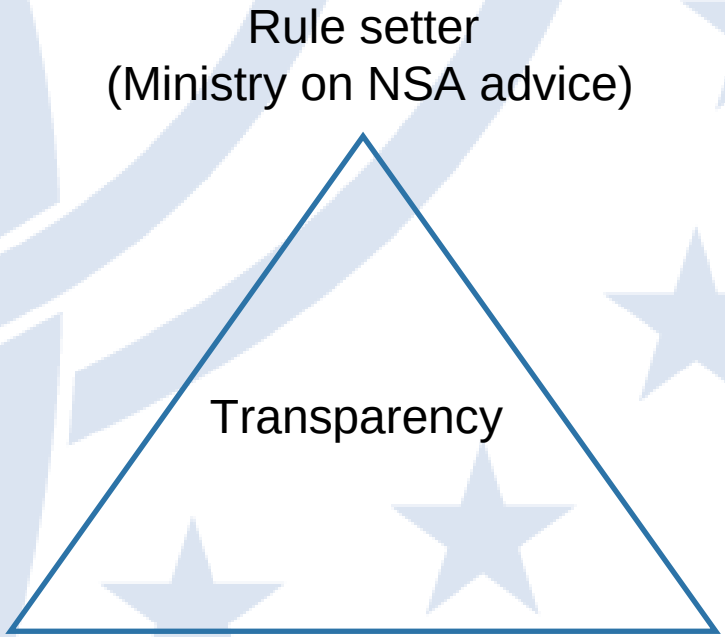
From expert Judgement (single point of decision)

Judgement of "wise" expert in NSA/IM

- Requirements
- Checking method
- Authorisation

(Safety Case) ("approved" by ISA based on "judgement")

3rd party verification of conformity to transparent, repeatable rules



Transparency (3)

- **The nature of the networks and paths offered for sale must also be transparent in the Network Statement / RINF**
  - To avoid discrimination
  - To ensure business certainty for RUs
  - To maintain Technical Compatibility and (gradually) reduce network diversity.

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Principle #5 – Networks must support trains.

Principle #5 – Networks must be managed to meet their purpose.

- **The purpose of a network is to support the operation of a train. To this effect**
  - Licenced RUs with authorised vehicles have a right of access which can only be denied on capacity grounds
    - No authorisations by IMs
    - No Technical “access conditions” / exported constraints imposed by IMs
    - Any requirements for compatibility with legacy systems must be adopted as national rules by Member States
  - Networks must be maintained to conform to the rules for Technical Compatibility
    - No new diversity with new projects
    - Existing diversity recorded in network statement -> RINF

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Principle #6 – Mutual Recognition

Mutual Recognition

- **By order of the Treaty Member Sates must not call into question checks carried out in other Member States**
  - Unless they can demonstrate a substantial safety risk
  - Unless a new check is necessary for compatibility with the other network and the relevant rules have not been assessed as equivalent between the MS

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Part 2 - Some reflections

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Essential Requirements and the TSIs

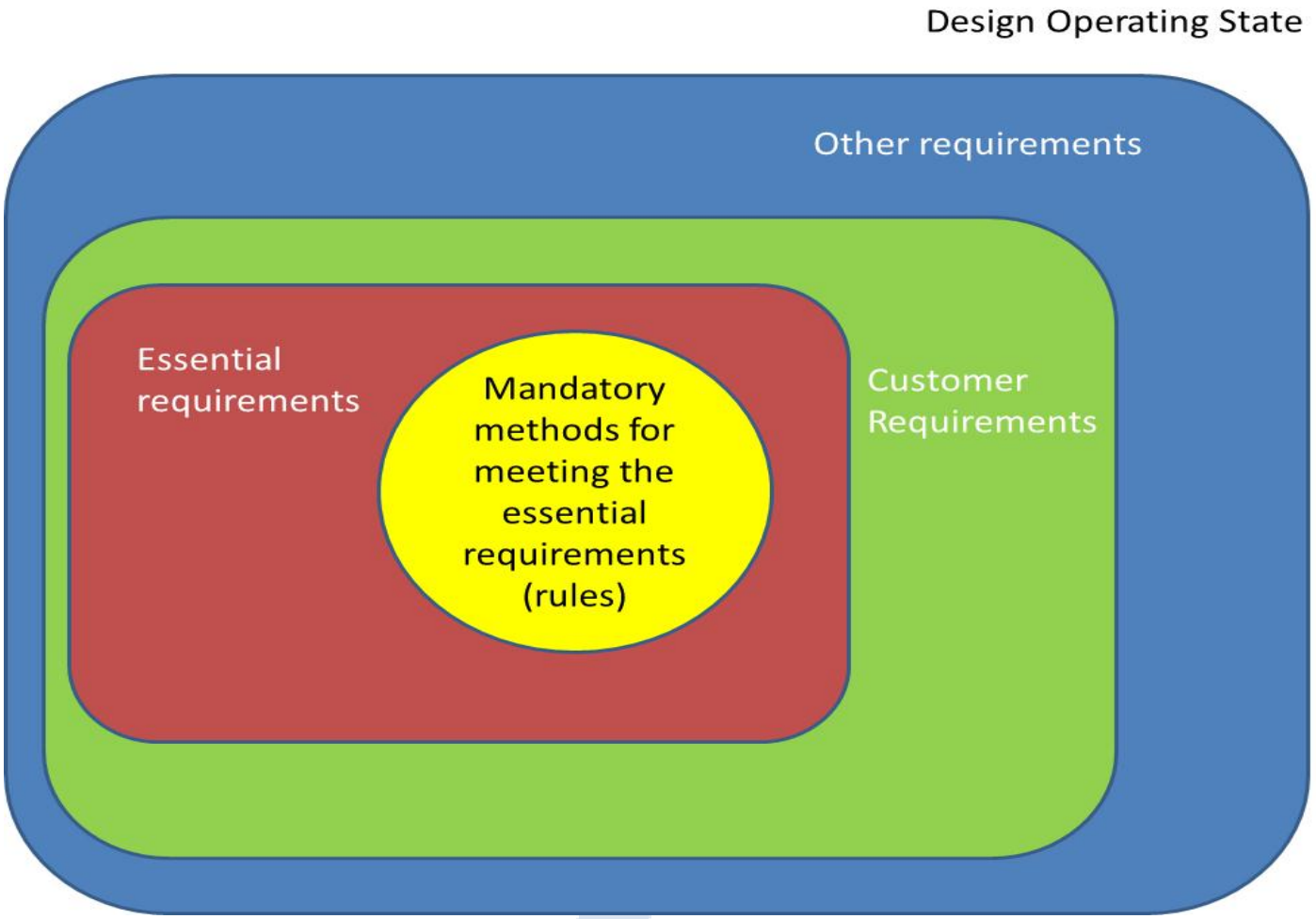
Essential requirements v TSIs

- Article 4 of the Interoperability Directive requires that "*The rail system, subsystems and interoperability constituents including interfaces shall meet the relevant essential requirements.*" – i.e. the essential requirements must be met at all times by all actors without exception.

- Article 5 of the Interoperability Directive states that "*To the extent necessary to achieve the objective referred to in Article 1, each TSI shall……*" i.e. the TSIs do not need to be exhaustive in respect of the essential requirements.

- Conclusion: Rules need only to specify "what everybody must do the same"

An applicant must meet all requirements



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Scope of authorisation checks

Scope of Authorisation

Essential requirements
= applicant's responsibility
= scope of applicant's declaration

What the directive requires to be checked at authorisation

Scope of authorisation

- **At authorisation not all aspects of the essential requirements are checked in all respects and every detail**
  - Egg the “slipperyness” of vehicle floors
- **If the authorisation were to include a check that the design operating states meets the essential requirements in all respects in every detail then**
  - The TSIs would be a design handbook
  - The checking bodies would need as many staff as the designer

Scope of Authorisation (2)

- **Because**
  - the authorisation is not a comprehensive “finished work inspection” check of every aspect of the essential requirements
  - The applicant at authorisation and then the RU / IM using the vehicle/subsystem, is responsible for meeting the essential requirements

- **the NSA, NoBo,DeBo can not/should not be considered to be taking responsibility “*for the safety of the system*” – their responsibility is only to check only what is required to be checked**

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Safe Integration

“A hammer in the world of screws”

Safe Integration

- **Safe Integration is traditionally used, in the context of systems managed by one actor, to mean all of:-**
  a. Integration of subsystems within themselves
  b. integration of a vehicle's sub-systems with each other
  c. integration of a vehicle with the generic network characteristics (i.e. Technical Compatibility)
  d. integration with the specific routes a vehicle operates over
  e. Integration of vehicles operation into the users Safety Management System (SMS) - including interfaces between vehicles, and maintenance

The same applies "mutatis-mutandis" for networks

Safe Integration (2)

But for the shared railway system – for vehicles

a. Integration of subsystems within themselves (RST&CCS) – not covered by rules (TSIs)

b. integration of a vehicle's sub-systems with each other (RST-CCS interface) – partly covered by rules (TSIs)

c. integration of a vehicle with the generic network characteristics (i.e. Technical Compatibility) -fully covered by TSIs and NTRs.

d. integration with the specific routes a vehicle operates over (i.e. train - route compatibility)

e. Integration of vehicles operation into the users Safety Management System (SMS) -including interfaces between vehicles, and maintenance

Is the responsibility of applicant for Authorisation in defining the design operating state for authorisation

Is the responsibility of RUs using the vehicle type.

is covered by RUs SMS.

Is not part of authorisation

Safe Integration (3)

For the shared railway system – for networks

a. Integration of network subsystems within themselves (INF,ENE,CCS) – not covered by rules (TSIs)

b. integration of network sub-systems with each other (interfaces between INF, ENE,CCS) – partly covered by rules (TSIs)

c. integration of a network project with the generic vehicle characteristics (i.e. Technical Compatibility) - fully covered by TSIs and NTRs.

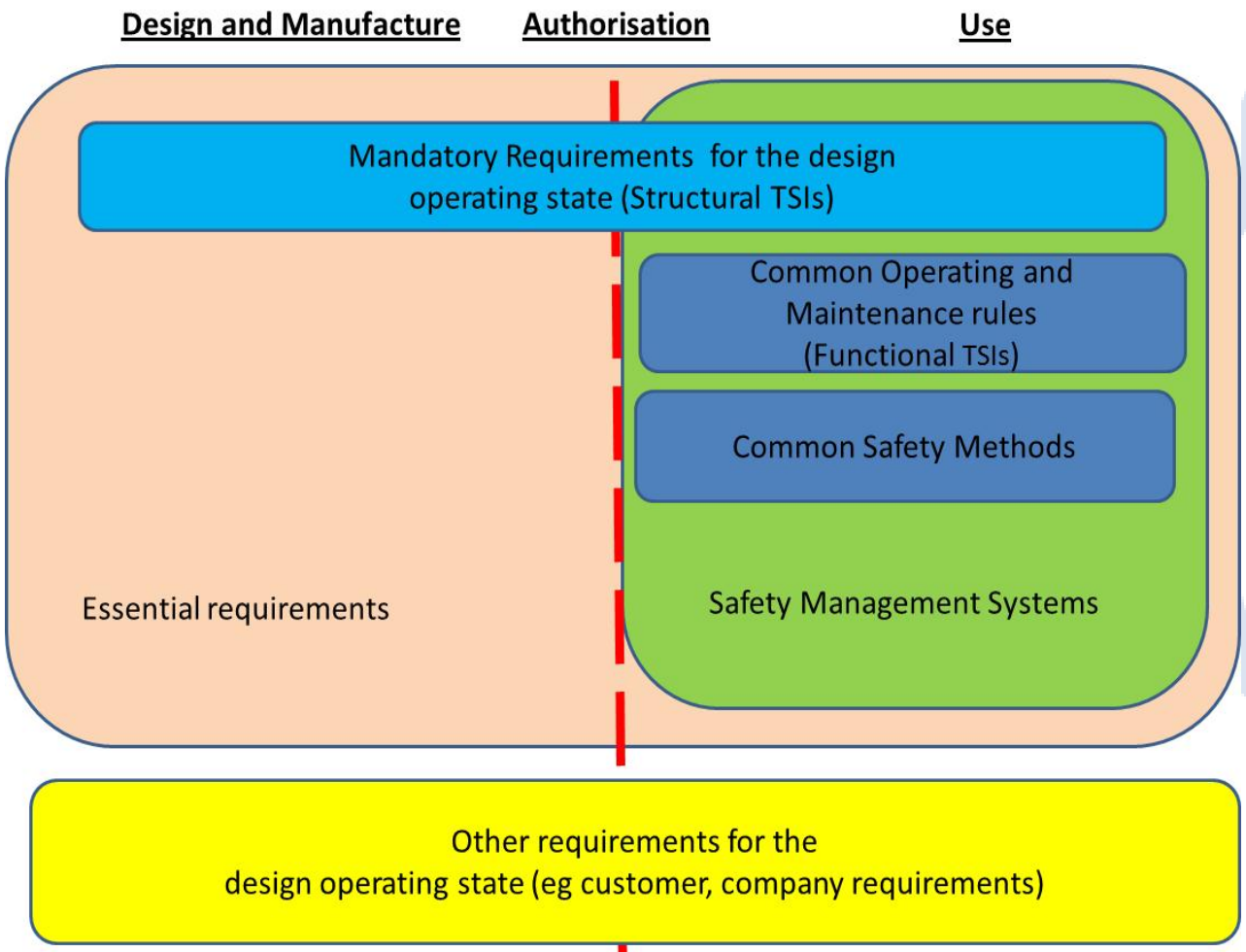
d. integration with the specific train operations already operated on the route (i.e. route - train compatibility)

e. Integration of network operation into the IMs Safety Management System (SMS) -including maintenance

Responsibility of applicant for authorisation

Responsibility of IMs in their SMS

Relationships



Testing

Testing

- **3 types/purposes of tests**
  - Product testing
    - Is the responsibility of the manufacturer
    - The authorisation process must not be used as a product testing process
  - Tests and checks for authorisation
    - The responsibility of the applicant
    - Only the testing specified in the TSIs and national rules shall be a condition of authorisation
  - Train - route compatibility checks
    - The responsibility of an RU intending to use vehicles over a route
    - This is NOT part of authorisation. It is covered by a using RUs SMS

(Manufacturers, applicants and RUs may arrange to carry these tests out at the same time but the responsibilities and purposes should be clearly separated)

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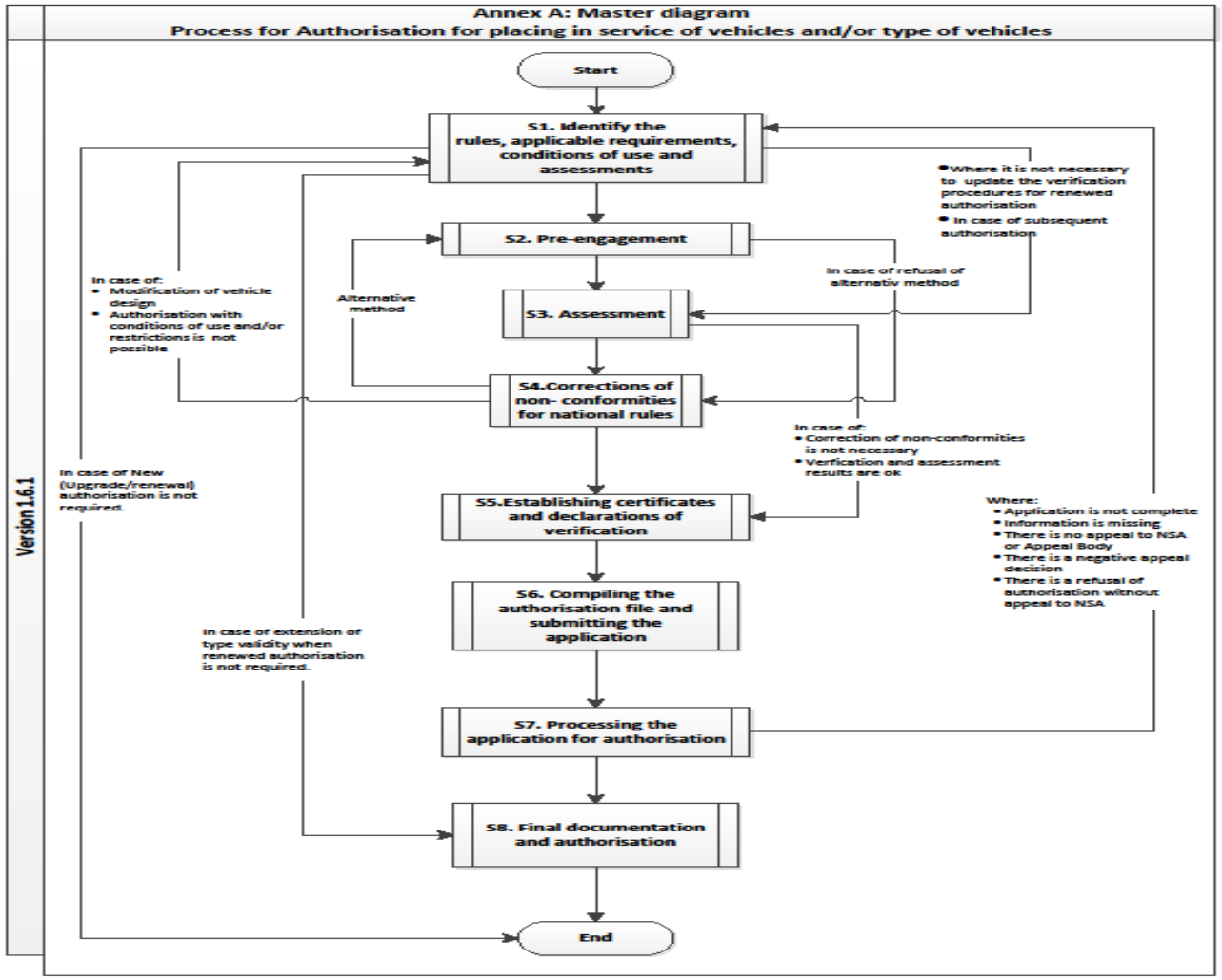
Transparency

Transparency

- **All Member States Rules for vehicles (incl on board CCS) are published on the ERA Website as National Reference Documents**
  - Chapter 12 covers CCS
- **21 Members State Authorisation processes are published as National Legal Frameworks according to a common flowchart on the ERA website.**
  - (The Polish NLF is waiting signature from the Ministry)

The 8 stages of the process



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Coming Soon

DV29 bis

DV29bis

- First draft from ERA- March 2012
- 1000 comments - June 2102
- Workshop on Authorisation – Feb 2013
- Bi lateral meetings May-July 2013
- Draft from the Commission – late September

DV29 bis

- The purpose of authorisation
- Purpose Scope and Content of the Technical File
- Use of the Common Safety Method in authorisation
- Thresholds for new certification and authorisation - “how big is big”
- Rules and Specific Cases
- Roles and Responsibilities after authorisation – “The right hand side”

We make the railway system work better for society.