



What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Harmonized system specification
Test for integration

Clear and open system specification
documentation/requirements
- modularization

More alignment with infrastructure

Allow higher level of financial support for freight.

Clear long term target

Easier authorisation process, especially for modular upgrades.

Anything which enables faster testing and authorisation. Also a better feedback loop between roll out results and product development

Standardised adaption and improvement to old locomotives





What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Financial support on EU level

Legal matters would theoretically be the easiest to manage and simplify.

Modularity of the different modules of the ETCS so that modernisation is easier.

Funding also for small railway undertakings.

- Every national government must co-finance on-board installation/upgrades.- Forced modular architecture and upgrades in each vehicle procurement.

Finance: makes it easier to migrate

Availability of harmonized European specification

Sufficient funding and financing mechanisms



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What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Simplified processes

Legal: some pressure limits
endless business cases,
postponing, etc

Standardised modular products
enabling interchangeability if
modules form multiple suppliers
reducing cost and enabling step
by step migration

Focus on the development
and considering of the ETCS
SAFTY in order to convince
the operators for the future

Starting the harmonisation
will require legal measures
and operational
harmonisation, technical
measures will follow

Money is an enabler for railways
but sometimes they need some
legal pressure to introduce new
technologies etc. And some
national governments need the
legal pressure of the EU to focus
on incentives

certified COTS
equipment and good
migration strategy

Less extensive NoBo
work



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What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Technical: backward compatibility, future proof

Stability of specification

Validate industry products through common European trials instead of repeating 27 time validation in 27 countries as for FRMCS

Better cooperation ROC and RSI

Mandatory architecture targets

Reduce complexity in Homologation

fleet certification

to grow the financial part to speed up the project





What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

pre certification

Clear certification framework and financial incentives

Harmonized migration scenarios
Harmonized Operational Rules

Shorter period between tsi and product availability

european harmonization

Align the national legal frameworks

Modular authorisation

Consequent modularisation of CCS on board, e.g. application (ETCS) shall not bother about the transmission of data





What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Financing because business case often not with the RU. Reduce overhead and speed up vehicle certification (helped by technical measures such as modularity)

Mature solutions only, already available, with a positive ROI

National rolling stock deployment strategy.

Pick and choose of module (versions)

Financial support for one Standard, no optional product

A mature modular onboard system that gas bern demonstrated comatible, safe, meeting users needs etc together w trackside for sera

All measures are required. It is the addition of all of them that can allow the objective of migration. Priority of each of them can be discussed of course.

- Real COTS product- Common participative suppliers approach- resources (humans)



What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Standardisation
Slimmer Process
authorisation
Business case for RU
Money Transfer from IM to RU

Financial, where railway companies that adopt the new technology faster are rewarded

Joint European CCS equipment development

Legal basis

Funding

Open the market with cost effective modular solutions

Easy legal measures

Financial support through EU/other funding.



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What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Equal incentives legal and financial - balanced trackside and onboard

Financing for developing and validating new products compliant with new specs

Streamlined Processes

Certification and authorization structure

Consider certification requirement while standardising interfaces between modules to reduce the cost and time required for new equipment to reach the market

Legal framework is complex and not easy to implement

Financing to hire resources to operate and manage both systems during migration period

Futureproof on-board equipment HW





What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Legal framework to support business case (including financial support). Plug and play modules. Simpler authorisation.

Increased public funding to accelerate migration, harmonized operational rules for international train operation, modular technology for cost efficient authorization

Legal harmonisation

Legal framework is not easy to understand and therefore to implement

Real interoperable components

Operational harmonization and the decision plan of integrating old and new technologies is the most critical part. Money can somehow be found. Governments should think that, we are engineers :)

Authorisation process and costs

Funding and processes



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What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Gaining a full understanding of what is needed for operations at the beginning will result in less rework and easier interoperability. Hence saving money and time.

Harmonized regulation to avoid market fragmentation due to different national approaches

Use technologies when needed

Funding for testing

Simplify autorisation process

Have more suppliers dedicated to on board functional modules (ATP, ASTP, ATO, FRMCS...)

Financing for onboards

Funding, modularity, certification,





What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Legal measures - to avoid pressure of carriers to enable older system version.

No more subsidy available. Legal could help to raise some money from industry

Helping to get into migration target 1

Understanding of technology

Simplified authorization process

Financial - to help carriers to upgrade their fleet.

I would give priority to financial support for this plan, in order to guarantee that all the other aspects will be achieved

Easier authorisation





What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Clear rules for use

Funding the system, not only the infra

Precise legal measures
Unified operational rules

Realism

Funding

Don't change the outer i/f. Make a modular target arch look compatible from outside

No more subsidies. The sector needs motivation from legal to get money from industry

Improving the operational and technical requirements





What measures would you propose to speed up and enable a smooth and cost-effective CCS onboard migration?

Better Funding and research

Find something to finance on board for private companies. Consider the on board as part of the infrastructure



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