

Eress

2022 MAGAZINE



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15 YEARS AND 9 COUNTRIES

Celebrate the 15th
Anniversary of Eress

Europe's leading and open partnership for gathering, exchanging, and settling of energy data among infrastructure managers is celebrating its 15th anniversary. Established in 2007, Eress has continually worked for a common and standardised rail "way" throughout Europe. This non-profit organization, wholly owned by its nine current partners, uses the jointly owned Exer IT System to exchange and settle energy in 9 countries and across borders.

Significant Achievements

Over the past 15 years, much has changed in the railway energy sector. Eress has been at the forefront of significant changes. Dyre Martin Gulbrandsen, Director at Eress, explains what he has seen as the four most important achievements.

"The first significant achievement goes back to the beginning. The Scandinavian countries came together to find common solutions for measuring, settlement and billing of traction energy for Scandinavian trains. This ultimately became the start of Eress Partnership. We thought across borders from day one.

The second achievement is our focus and competence on the whole value chain, from the meter on the train to the energy market, including how to apply new technology. When we started, we thought the core of our solution was smart algorithms. These algorithms are still with us now, with a

reliable process that has continued to work, giving us a proven track record over 15 years.

Thirdly, we've built the Eress cooperation and the Exer system step-by-step over 15 years – with more partners, innovative technology, and new functionality.

Finally, Eress has built a European community where we share experience and competence. Our partner countries are actively taking part in setting up and improving a European standard for energy metering, settlement, and billing. This was unregulated before this work began, leaving a gap between the railway regulations and the energy regulations. I think we have favourably integrated the railway and energy market."

The Future of Eress

Since the foundation of Eress, the development of a standardised European solution, has been the focus. However, the work has not finished yet, as there is still

more work to accomplish in the future.

Regulations change and new innovative technologies will emerge, so new solutions must cover the needs of each partner as they adapt. Plus, as more partners join Eress, both current and new partners' benefit. Eress has achieved a significant economy of scale, and this increases even more by bringing on new partners.

Higher Energy Prices

Higher energy prices are a concern for our partners and customers all over of Europe. Dyre Martin Gulbrandsen talks of the future of higher energy prices, "In the railway sector, what I see is a renewed interest and focus from the railway undertakings on how they manage their energy use. The aim is to reduce energy consumption and become more energy efficient. That's good for the environment and reduces costs for companies."



A 15TH ANNIVERSARY MESSAGE FROM DYRE MARTIN GULBRANDSEN, DIRECTOR OF ERESS

"I am pleased to have worked with many great, competent and committed people over the last 15 years. At Eress, we look ahead – developing and adapting our organization and systems to the future of technology, solutions, the market and the organization."

ERESS

Celebrating 15 Years of Partnership Success

Eress, Europe's leading energy settlement system, celebrates 15 years working for one standard European railway solution. Since 2007, the non-profit organization has led the railway industry handling energy metering and settlement. Owned by the current nine partners, Eress uses the Erex IT System to match national regulations while exchanging and settling energy across borders.

What began as a clever idea for a common problem in Norway, Sweden, and Denmark, developed into a usable solution throughout Europe. The corporation and partnership prospered as the partners worked jointly for results. The partnership, cooperation and Eress's system demonstrated value for each partner in a stable and efficient system.

The Eress Journey into the Future

As new regulations and technological advances evolve, the Eress partnership remains highly relevant at the forefront of development. As Vibeke Hodne, Steering Chair of Eress, explains, "We are on a journey to support Europe as a greener society, with a greener future. For the next 15 or even 30 years, Eress will remain relevant and still be a success because we want to develop. We want to stay relevant, and we are eager to find solutions for the railways."

The current path suggests Eress will continue to grow with innovative solutions, advanced features, and more partners. Hodne continues, "Eress is one of the pillars of European railway energy efficiency with energy improvements – energy use improvement. And that is exactly what society needs today."

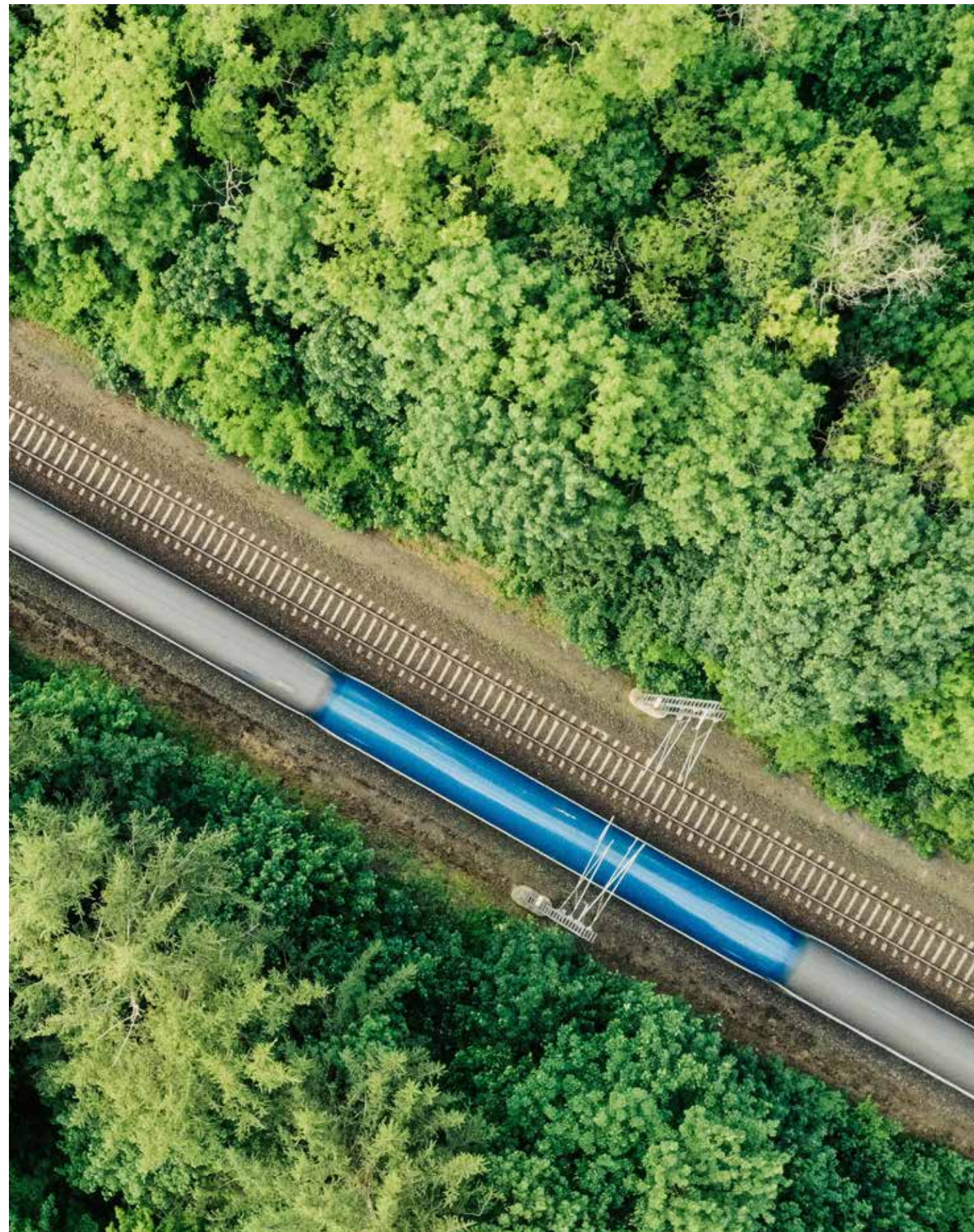
As Eress moves into the future, there remain some challenges beyond high and

rising energy prices and the general need for energy efficiency. Hodne is adamant about standardisation across European countries.

"Competition within the transport sector increases as cars and trucks become greener. We say that railways are the greener alternative. But if the railway industry is not investing, not cooperating, not standardising, the electric cars and trucks will take over as they get greener. We will lose our head start – our advantage. So, we need to act now."

Railways support future development for a greener society. Still, it requires politicians to grant the necessary investments, permissions, and concessions. These long-term decisions represent a dilemma because politics often become short-term when politicians fight to win the next election. Voters want results now or in the next period, while railway investments take time and a lot of funds before voters can make use of the benefits.

Eress's system, Erex, is a standardised cross border railway energy settlement system, providing a solid solution for partners and for the train companies. As Hodne says, "This is a good long-term solution for our society because Eress Cooperation provide energy-efficiency possibilities for railway undertakings and transparency in the railways. Through our reports people can see that railway is an energy-efficient transport system."



HISTORY

The timeline

It was back in 2003 when discussions began about accurately settling energy onboard trains. Since then, noteworthy events include:

2007

Nordic NRESS Partnership established by the IMs from Norway, Sweden, and Denmark.

2009

Belgium joins. NRESS becomes Eress with the Erex IT System.

2013

Finland joins Eress.

2014

Switzerland joins Eress.

2015

The Netherlands joins Eress.

2020

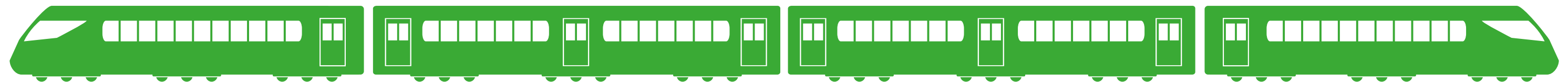
Spain's Adif and Luxembourg's CFL join Eress.

2022

Infraestruturas de Portugal (IP) begins the testing partnership with Eress.

OUR PARTNERS

What do Eress partners say about Eress?



THE NETHERLANDS

“Eress collaboration and its Erex system have been essential for Prorail to offer transparent information to all railway undertakings running in The Netherlands”

Daan Verbaan, Prorail



SWEDEN

“We are proud to be one of the pioneer Eress countries and see how the partnership has been growing over the years”

Lars Johansson, Trafikverket



SPAIN

“Eress is the best community for facing together this challenging moment. Sharing of experiences and knowledge among partners is very helpful for us”

María Victoria Calleja Duro, Adif



BELGIUM

“Eress is a knowledge sharing community helping each other in complex niche market. Thanks to the Eress partnership, Infrabel is able to fulfil its mandatory tasks at low cost and with high quality”

Bart Van der Spiegel, Infrabel



DANMARK

“We are proud that banedanmark has been an Eress member from the start and to see how Eress partnership continues to grow”

Mads Thostrup, banedanmark



NORWAY

“Our annual customer survey has shown that Train Operators are highly satisfied by using the Eress system, Erex. This means that we are doing something right. We work with a win-win energy solution for 10 Infrastructure Managers in Europe and all Train Operators running in these countries”

Dyre Martin Gulbrandsen, Bane NOR



LUXEMBOURG

“Eress know-how and collaboration have contributed to energy efficiency at CFL”

Christian Zimmer, CFL



SWITZERLAND

“The Erex system has made a significant contribution to making the energy consumption on each train run in Switzerland transparent”

Bruno Zurfluh, SBB



FINLAND

“Finland benefits from Eress know-how. Erex system has been key in transparent energy billing for our train companies”

Simo Toikkanen, Vöylä



STATISTICS 2022

Railway Energy in Europe 2022

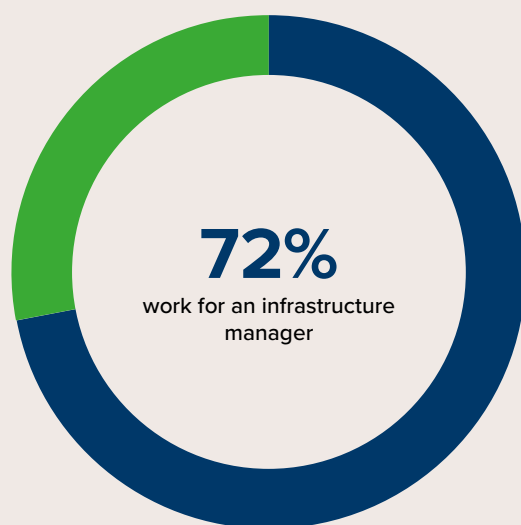
Rail transport offers a more sustainable alternative to most other transport modes — both in terms of energy use and carbon emissions per passenger-kilometre or tonne-kilometre — and is anticipated to continue doing so for decades to come. Therefore, it is important to continue efforts to reduce the carbon footprint of the railway-energy sector. The Sustainable Development Foundation has worked together with Eress, on the status on

railway energy in different countries across Europe. We expect to highlight the urgency of working together for reducing the impact — created by transport — on human well-being and the environment. This year's survey collected key information from infrastructure managers and train operators. The purpose of this survey is to describe the state-of-the-art of the railway-energy sector, according to the people that work in it

and face new challenges on a daily basis. The outcome provides an overview of railway energy monitoring systems within Europe's borders, taking into account the technological aspects as well as train operators' expectations on the future of the European energy market. More importantly, the results of this survey facilitate a better understanding of the complex world of railway energy.

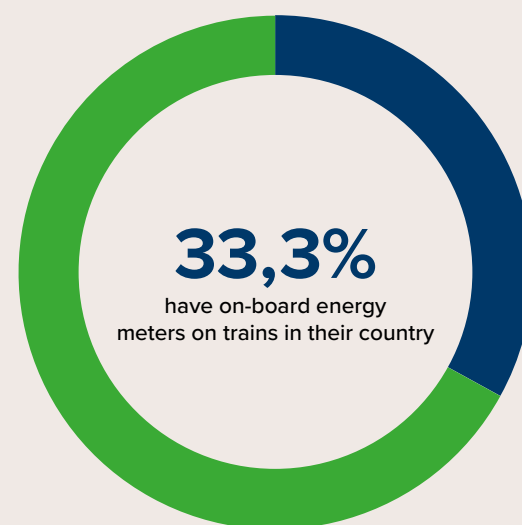
Where do you work? I work for...

- Infrastructure Manager (72%)
- Train Operator (28%)

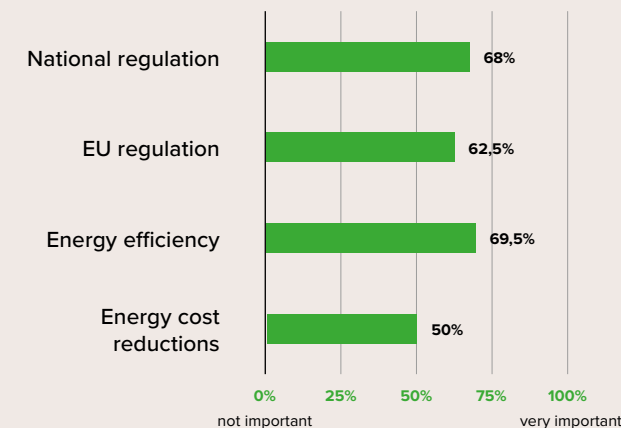


About on-board energy metering systems, do you have energy meters on trains in your country?

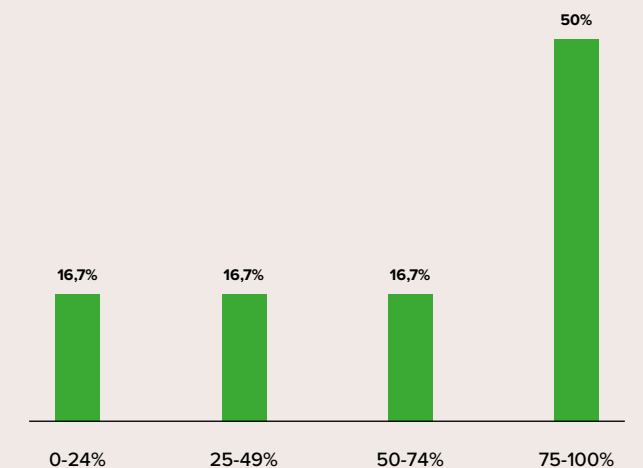
- Yes, on almost all trains (33,3%)
- In progress (66,7%)



How important are the following drivers for implementing a rail energy billing system?

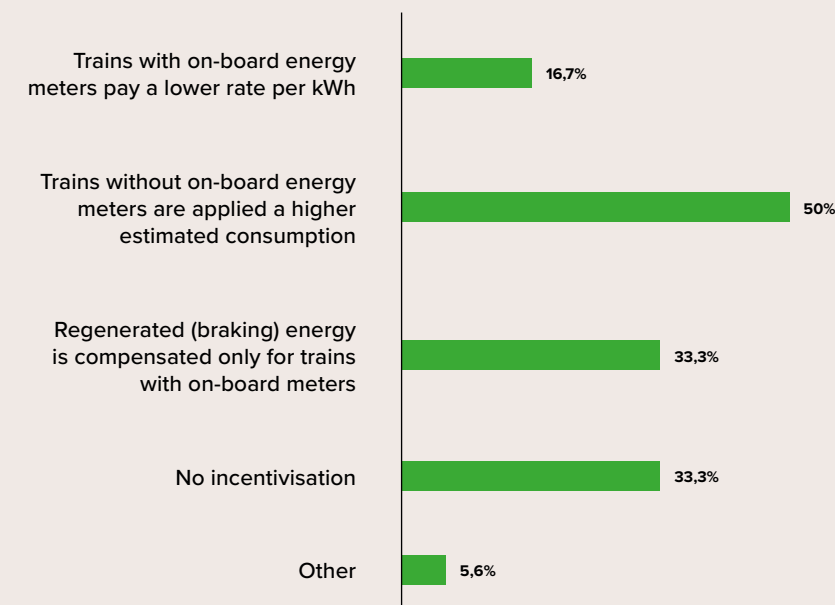


What is the percentage of traction units equipped with meters that you expect in your country by 2023?



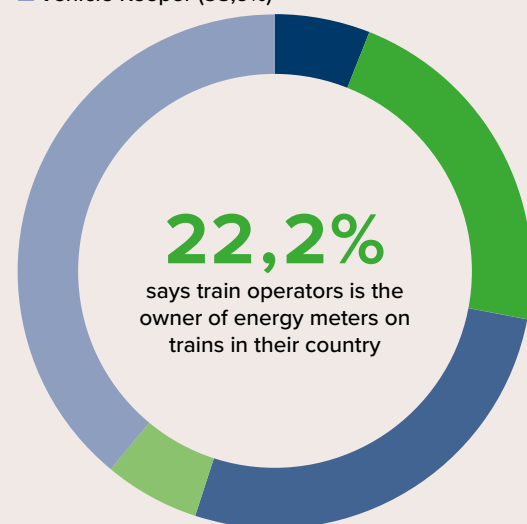
How is the installation of on-board energy meters incentivised in your country?

(multiple choices allowed)



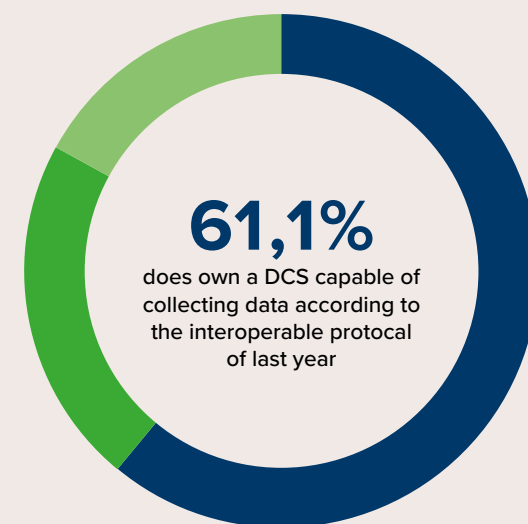
Who is the owner of energy meters on trains in your country?

- Infrastructure Manager (5,6%)
- Train Operator (22,2%)
- Combination of Infrastructure Manager and Train Operator (27,8%)
- Metering Service Supplier (5,6%)
- Vehicle Keeper (38,9%)



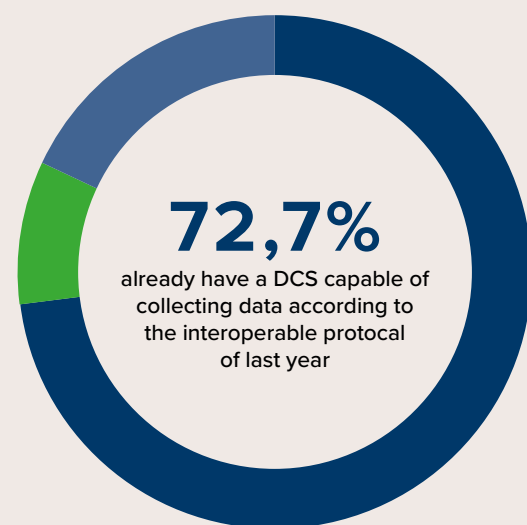
Does your organization own or will own a Data Collecting System (DCS) capable of collecting data according to the interoperable protocol.

- Yes (61,1%)
- No (22,2%)
- Other (16,7%)



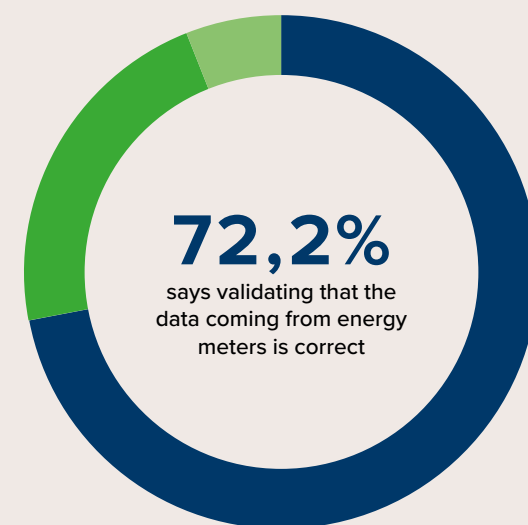
When are you planning to have such a DCS?

- Already have (72,7%)
- I don't know (9,1%)
- Planning to have (18,2%)
- Do not plan to have (0%)



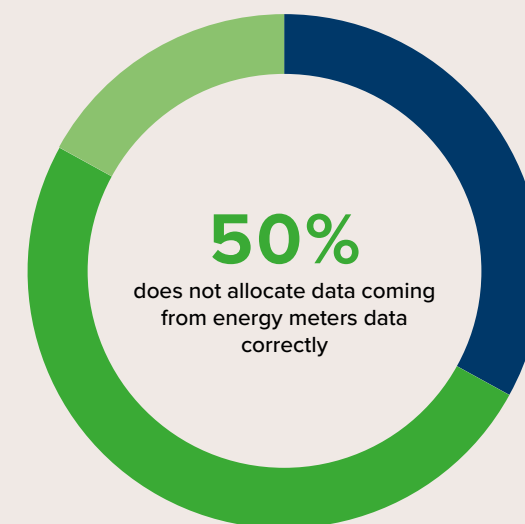
If there are installed meters in your country, do you have any challenge with validating that the data coming from energy meters is correct?

- Yes (72,2%)
- No (22,2%)
- I don't know (5,6%)



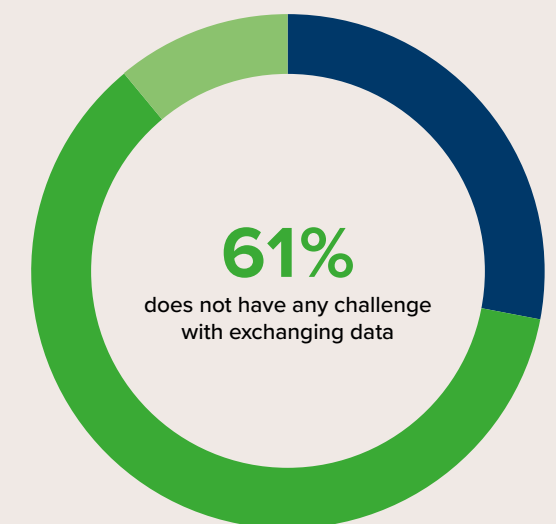
If there are installed meters in your country, do you have any challenge with allocating this data correctly?

- Yes (33,3%)
- No (50%)
- I don't know (16,7%)



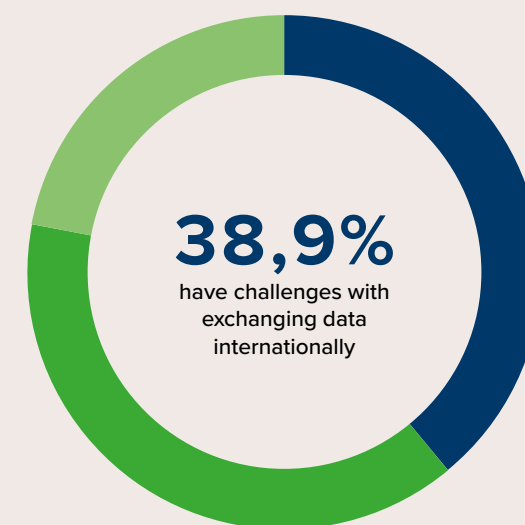
If there are installed meters in your country, do you have any challenge with exchanging data inside the country for billing purposes?

- Yes (27,8%)
- No (61,1%)
- I don't know (11,1%)



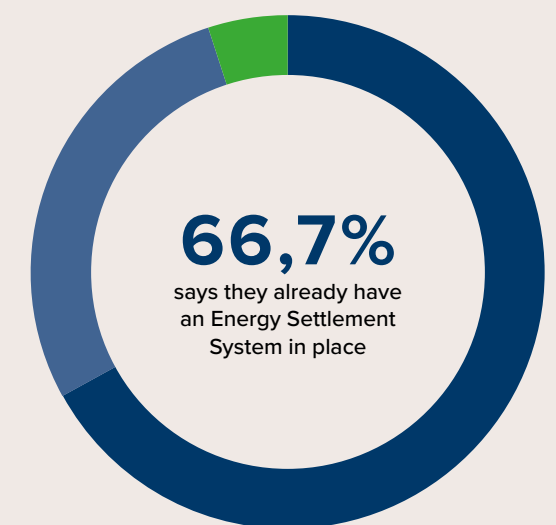
If there are installed meters in your country, do you have any challenge with exchanging data internationally for billing purposes?

- Yes (38,9%)
- No (38,9%)
- I don't know (22,2%)



Do you have an Energy Settlement System to correctly handle metering data from trains for billing purposes?

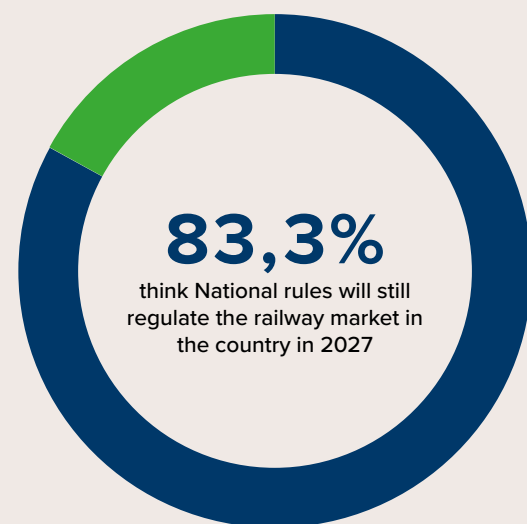
- Yes, we already have an Energy Settlement System in place (66,7%)
- It is in progress (27,8%)
- No (5,6%)
- I don't know (0%)



How do you think railway energy in your country will look in 2027?

National rules will still regulate the railway market

■ Yes (83,3%) ■ No (16,7%)



How do you think railway energy in your country will look in 2027?

There will be a Data Collecting System(s) in place

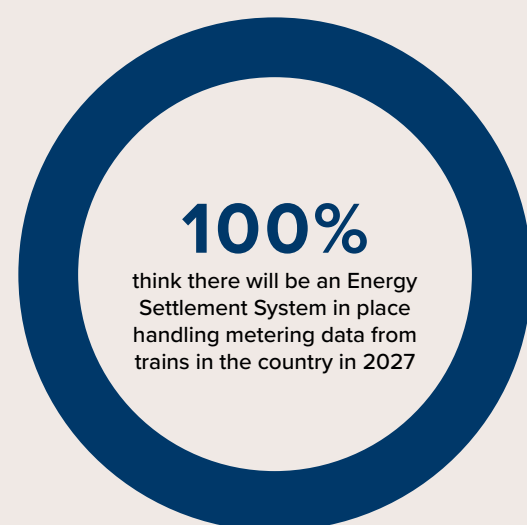
■ Yes (100%) ■ No (0%)



How do you think railway energy in your country will look in 2027?

There will be an Energy Settlement System in place handling metering data from trains

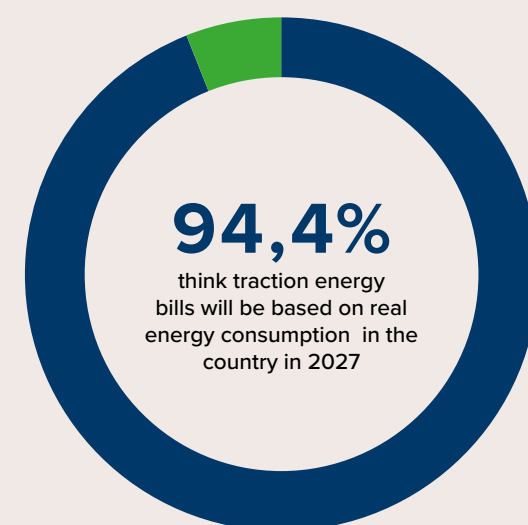
■ Yes (100%) ■ No (0%)



How do you think railway energy in your country will look in 2027?

There will be Traction energy bills based on real energy consumption

■ Yes (94,4%) ■ No (5,6%)



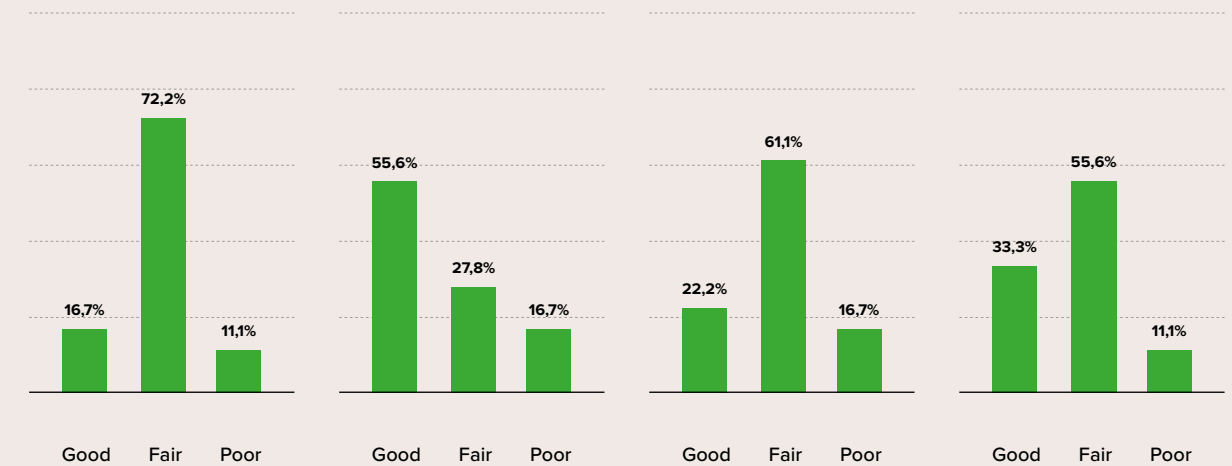
How do you see the development of the following railway energy fields in your country, during the last 3 years?

New technology

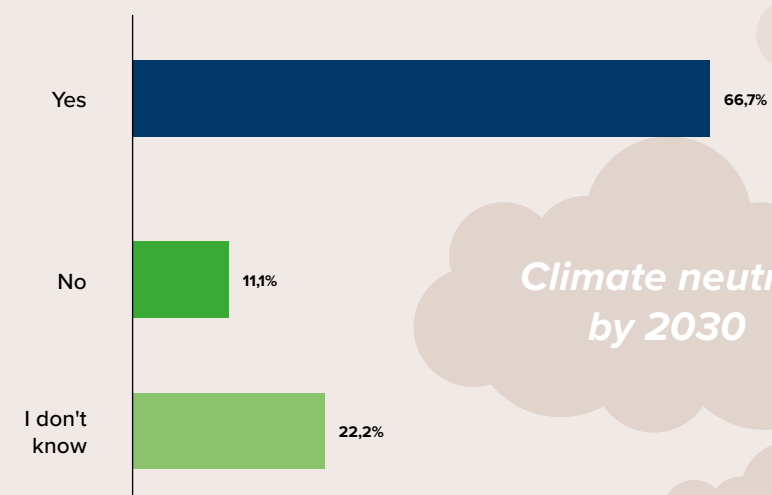
Energy meters have been equipped

Interoperability with your neighbouring countries

National regulation in accordance to EUs' deadlines



Has your organization set any target to improve energy efficiency or to reduce CO₂ emissions?



Climate neutral by 2030

CO₂ neutral by 2040



Partners

Switzerland
Finland
Belgium
Denmark
Sweden
Norway
The Netherlands
Spain
Luxembourg

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