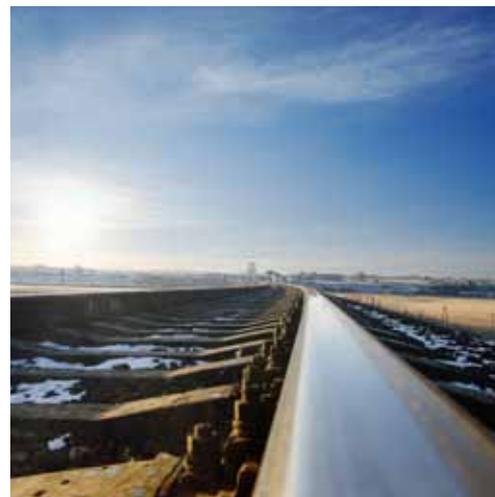


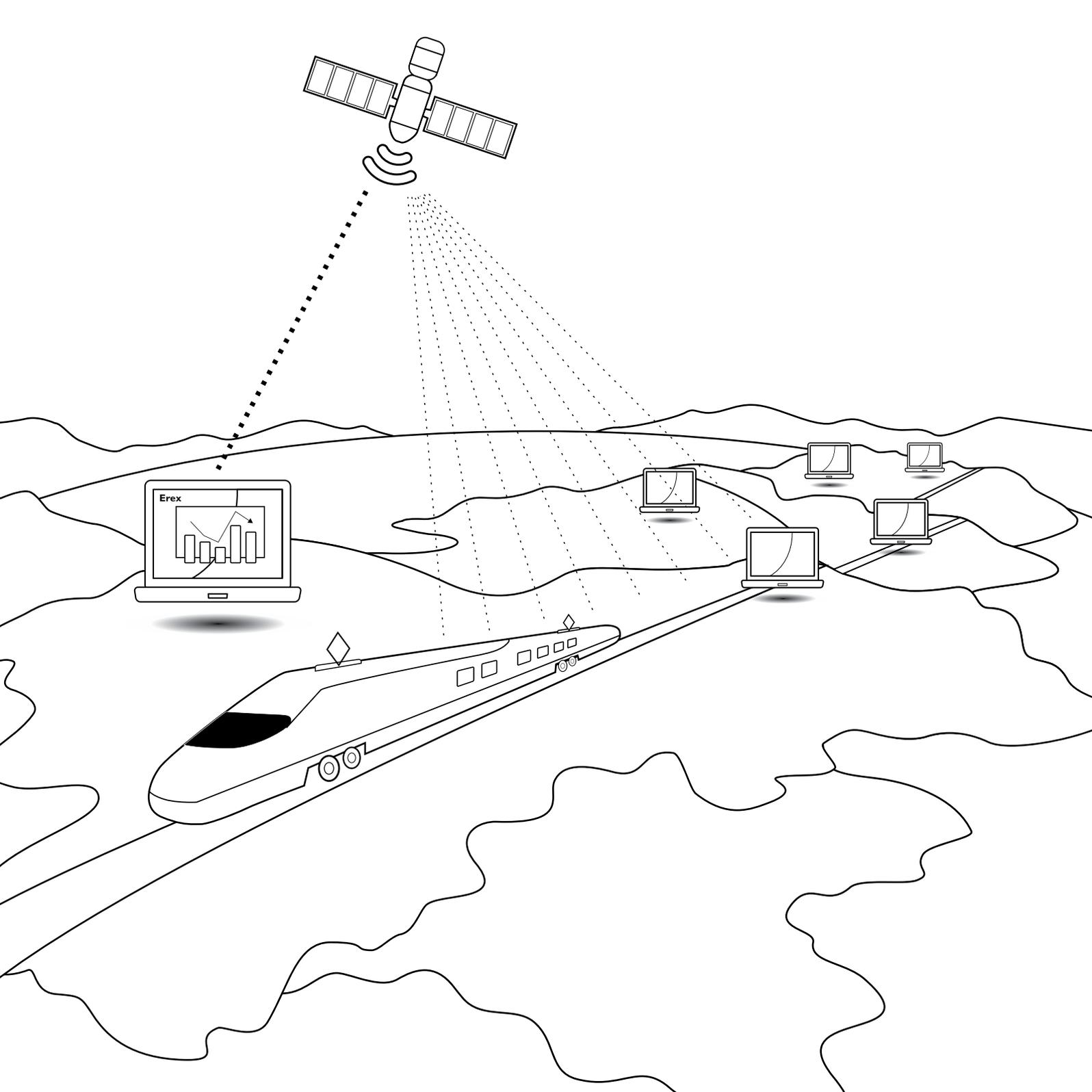
# eress

erex



## ANNUAL REPORT 2012





Erex system helps railways save money and reduce CO<sub>2</sub> emissions by providing exact billing based on actual consumption.

## ERESS PARTNERSHIP

Eress is a partnership between Banedanmark (Danish National Railway Agency), Infrabel (Belgian Railway Infrastructure Manager), Jernbaneverket (Norwegian National Rail Administration), Trafikverket (Swedish Transport Administration) and Liikennevirasto (Finnish Transport Agency). Eress is a non-profit organisation, jointly owned by its partners, committed to the development, implementation and supply of the energy settlement system Erex.

Eress is an open partnership for infrastructure managers. New partners join with the same rights and obligations as the existing partners.

## EREX SYSTEM

Erex provides an efficient, reliable, accurate and flexible energy settlement process. This enables our partners to fulfil requirements for a neutral and non-discriminatory operation, and railway undertakings to understand their use of energy and thereby save energy and costs.

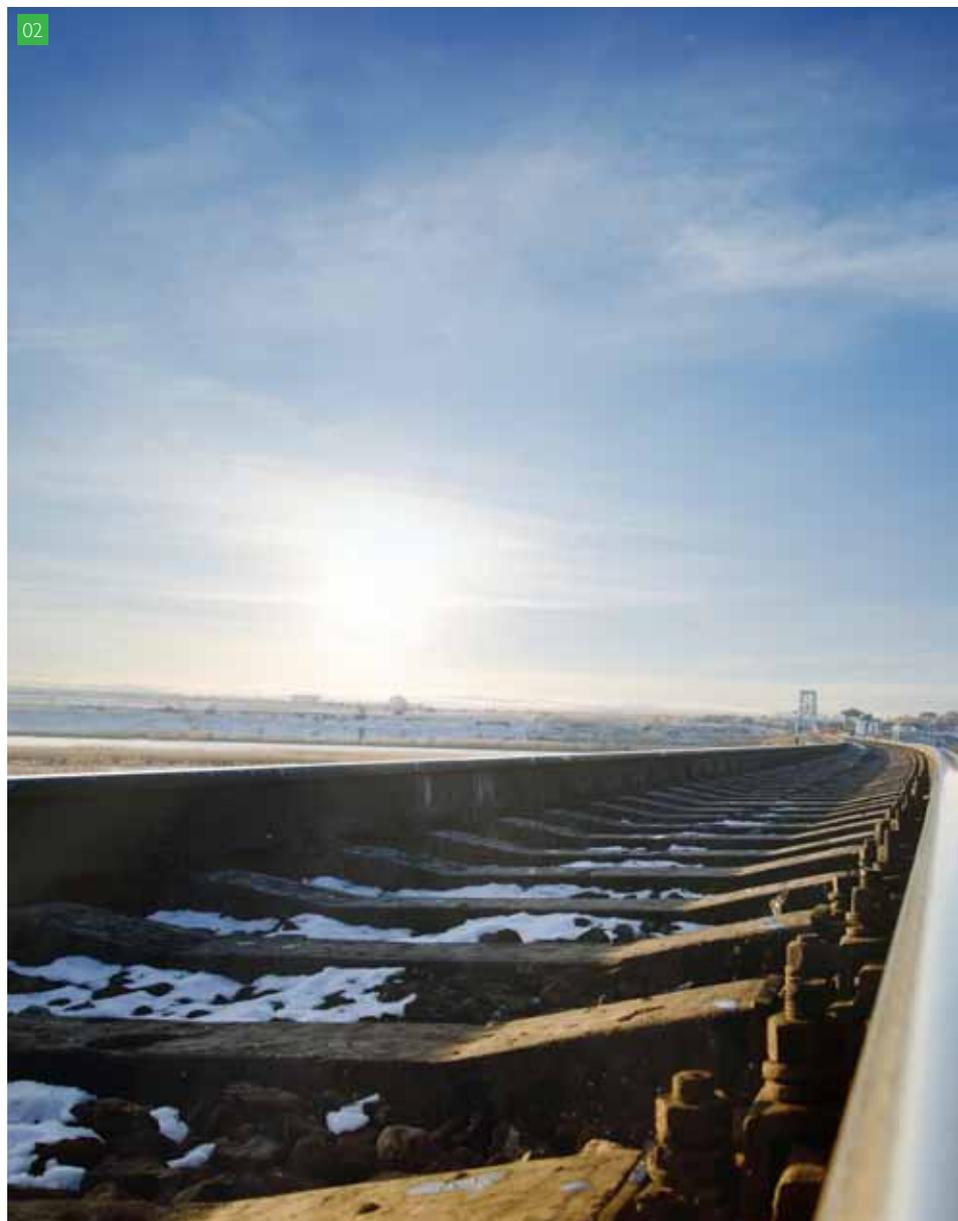


## Bright track

Dyre Martin Gulbrandsen, Eress Director, is very proud of Eress development. «The decision of the Finnish Transport Agency to become Eress 5th partner is a significant milestone for the organisation».

01 Eress Director, Dyre Martin Gulbrandsen

02 Eress is founded on the idea that the best solutions are created through a joint effort.



**ERESS**

- Eress partners: 5
- Eress testing partners: 4
- Amount of traction units handled by Erex system in 2012: 3 000

## TOGETHER WE ARE SETTING THE STANDARD

In the last few years Eress has become Europe's leading environment for the development of train energy settlement processes. In 2012 Liikennevirasto (Finnish Transport Agency) decided to join Eress, becoming Eress 5th partner. This proves that Eress has now taken the step from the laboratory to the European railway reality. Today Eress is consulted by the world's leading train manufacturers, and our annual Eress Forum is considered to be one of the most important railway energy forums in Europe.

The increased interest in the partnership is a confirmation of the work we have done, but equally important it is a major strength in the work that lies ahead of us. It is through our partners that the solutions of tomorrow are being developed. We are founded on the idea that the best solutions are created through a joint effort, by listening to each other's experiences and taking into account each other's needs. The more partners who participate, the stronger the solutions become. In other words: Cross border cooperation for cross border solutions.



## Wide experience

Harald Jony, Director of Sales, Austrian Federal Railways (ÖBB-Infrastruktur AG) thinks that Eress experience has been just as important as its technological knowledge.

- In the railway energy sector there are not many organisations who can offer reliable validation and allocation of data. This is a narrow niche and Eress experience and technological know-how have been very valuable for us.

01 Harald Jony, Director of Sales  
ÖBB-Infrastruktur AG

02 ÖBB-Infrastruktur AG Head-  
quarter in Vienna, Austria





## ÖBB-INFRASTRUKTURAG

- 100% owned by the Republic of Austria.
- Divided into several separate businesses: including infrastructure, passenger and freight services.
- Decided to start testing Erex system in 2012.

## ASSURING QUALITY

ÖBB-Infrastruktur AG (Austrian Federal Railways) is the national Infrastructure Manager of Austria. ÖBB-Infrastruktur AG is also a large and well known operator in Europe. ÖBB-Infrastruktur AG looks at the development of corridors as the necessary next step for major transport in Europe. ÖBB-Infrastruktur AG develops own meters and promotes them across Europe. In 2012, its division Energy, decided to start a collaboration with Eress, for validation and allocation of metered data.



## Ahead in Europe

Juha-Matti Vilppo, MSc, Electrical Engineering, Finnish Transport Agency thinks that Eress is furthest ahead in Europe with regards to energy measurement within the railway sector.

- We have followed the development of Erex from the beginning. The system is more open than the majority of other solutions in the market. Their development has progressed furthest and their support function is among the best. With already five countries contributing to its development, a true cross border functionality is ensured.

01 Juha-Matti Vilppo, Finnish Transport Agency (FTA).

02 Finland is preparing for the free trade of energy in its railway sector.



## FINNISH TRANSPORT AGENCY

- (Liikennevirasto)
- Started testing Erex system in 2010.
- Decided to become Eress partner in 2012.



## WELL PREPARED

In December the Finnish Transport Agency, the national infrastructure manager of Finland, chose to join Eress as a partner. In consideration of EU's TSI application which comes into force from 2017, the company has been busy preparing the terms for the free trade of energy in the country's railway sector. An important prerequisite for this is accurate measurement and reliable settlement, and in close collaboration with Eress, the Finnish Transport Agency has developed solutions tailored to its country's railway needs.



## Valuable competence

Rockys Akli, Technical Manager, Energy Metering System, Alstom, thinks Eress represents more than just a technological system.

- When we began collaborating with Eress it was first and foremost the competence we wanted; energy measurement within the railway sector is today truly in uncharted territory. Eress is one of very few organisations in the market and has for a long time been at the forefront of development. With Eress implemented in five countries, Eress now represents something close to a standard.

01 Rockys Akli, Technical Manager,  
Energy Metering System, Alstom

02 Alstom's headquarters are  
located in Paris, France





© Alstom Transport

## ALSTOM

- One of the biggest train manufacturers in the world.
- Employees: More than 85,000 people
- Offices: In 70 countries
- Alstom and Eress: Collaboration on how to better equip trains with metering systems from the start.

## READY FOR TOMORROW

As one of the world's leading train manufacturers Alstom believes that a sustainable future is dependent on energy efficient trains and that accurate measurement of energy consumption will become even more important in the years to come. In the development of their new trains Alstom wants to facilitate this, and in collaboration with Eress partnership, the company has developed solutions, which, from day one, are ready to meet the future need for measurement of actual energy consumption.

## ERESS FORUM: AN OUTSTANDING GREENHOUSE

Last year's Eress Forum took place in June in the beautiful city of Prague, and was attended by some of Europe's more important politicians, researchers and leaders from the railway energy sector. Speakers, experts, journalists, politicians and leaders from throughout Europe gathered in Prague for an exchange of experiences and points of view. Of note from Eress Forum 2012 was the active participation from central and eastern European countries, such as the Czech Republic and Slovakia. Eress Forum has today become an outstanding greenhouse, open and welcoming to new ideas and solutions from and for the whole of Europe.





01 Harald Jony (ÖBB), Claudia Van Diermen Jacobsen (Eress), Valerio Recagno (D'Appolonia), Doris Masser (ÖBB)

02 Bart Van der Spiegel (Infrabel), Belgian Railway Infrastructure Manager

03 Margrethe Sagevik (NSB), Dyre Martin Gulbrandsen (Eress), Elin Oldervik (Eress)

04 Eress Forum 2012, Prague

## NEXTERESSFORUM

- When: May 15, 2013
- Where: Vienna, Austria
- Participants: ca. 140
- Number of countries represented: estimated 19
- Speakers: 24

## UIC AWARD: IMPRESSING THE JURY

The UIC Sustainable Awards were given at the last UIC Sustainable Conference in Venice, Italy (October 2012). Impressed by the results Eress has created in the development of European railway sector, the Jury awarded Eress in the category Energy and CO2.

## A PRACTICAL “CAN DO” ATTITUDE

- The Jury was impressed by the technical aspects of the project, delivering a useful system of measuring, monitoring and accurately billing energy. But more than that, the Jury was impressed by the cooperation between railway companies and the practical “can do” attitude of the partners.

01



02



03





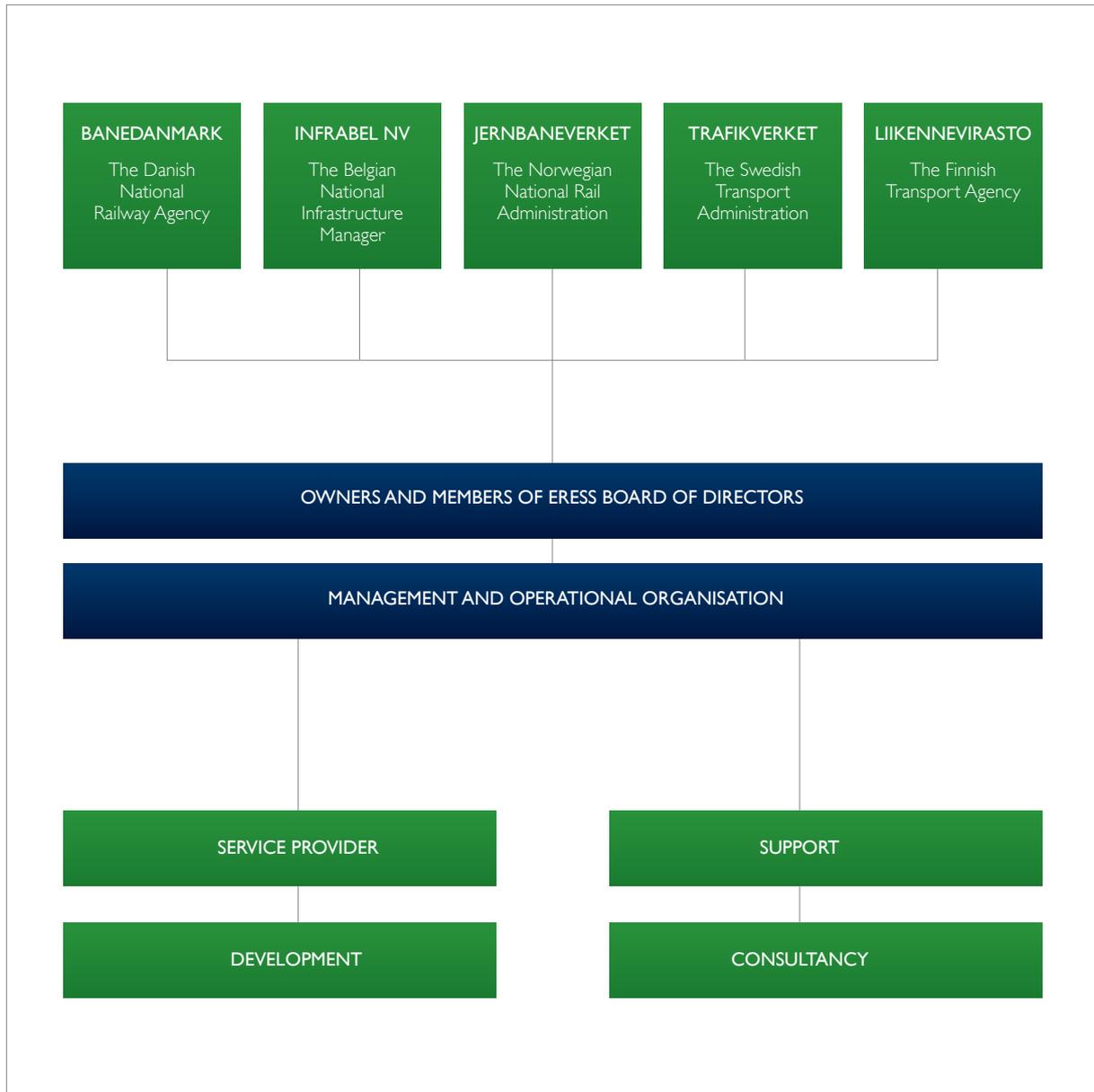
- 01 UIC Director, Jean-Pierre Loubinoux, handing the UIC Award and shaking hands with Eress Director, Dyre-Martin Gulbrandsen.
- 02 Eress Representatives, Lotte Ebert Jensen, Dyre-Martin Gulbrandsen, Terje Stømer and Claudia van Diermen Jacobsen.
- 03 Eress Chairman and representative of Jernbaneverket, Terje Stømer, thanked the UIC for the award
- 04 UIC Sustainable conference in Venice, October 2012, where Eress won the Energy and CO<sup>2</sup> award.

## UIC

- 197 members from five continents

## UIC AWARDS

- The awards are given every 2 years
- 4 categories



## ORGANISATIONAL STRUCTURE

The Eress Board of Directors consists of representatives from each of the partners and joint owners. Each infrastructure manager entering the partnership appoints its representative and these elect a chairman. The Eress Board of Directors is responsible for the strategic direction of Eress organisation and the further development and operation of Erex system.

Eress' management and operational organisation is located at Jernbaneverket Bane Energi, the energy department of Jernbaneverket in Oslo, Norway. It acts on behalf of Eress and uses its expertise and know-how in the administration and operation of Erex system. A principal task of the organisation is carrying out continuous improvement and development of Erex in order to meet the future needs of partners and their customers.

The management and operational organisation is responsible for energy data collection, validation and allocation to relevant consumption areas. It guarantees the accuracy and the completeness of the energy data that is transferred to settlement and billing.

The Eress management and operational organisation performs quality control of Erex. Eress is certified according to NS-EN ISO 9001:2000.




**Terje Stømer**

Chairman of Eress and representative of the Norwegian National Rail Administration


**Juha-Matti Vilppo**

Representative of the Finnish Transport Agency Manager


**Lotte Ebert Jensen**

Representative of the Danish National Railway Agency


**Lars Johansson**

Representative of the Swedish Transport Administration


**Bart Van der Spiegel**

Representative of the Belgian Railway Infrastructure Manager

The Board of Directors: Terje Stømer, Juha-Matti Vilppo, Lotte Ebert Jensen, Lars Johansson and Bart Van der Spiegel.

## MESSAGE FROM THE BOARD OF DIRECTORS

The year 2012 is marked by the decision from Liikennevirasto (Finnish Transport Agency) to join the Eress from 1st of January 2013. Eress Board of Directors is very pleased to welcome Finland as the fifth European country joining the partnership.

Eress has seen an increased interest in Erex throughout 2012. Two new countries, Austria (ÖBB) and the Netherlands (NS), have signed test agreements with Eress. Any interested party has the opportunity to test Erex for a limited time period without joining Eress as partner.

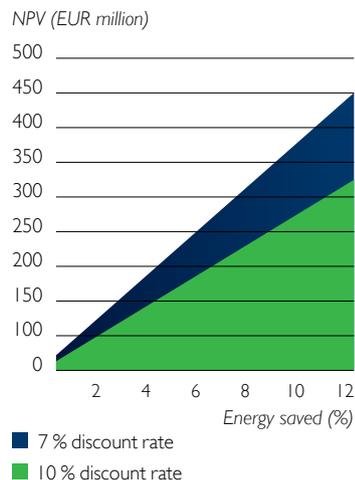
Another highlight in 2012 has been the UIC Award that the Erex system and Eress organisation received. It is recognition for the quality of the system and the way Eress works.

Eress is foremost an international non-profit cooperation of infrastructure managers. It strives to enhance rail competitiveness and interoperability by offering a smart settlement solution for train energy consumption at the lowest available price on the market. Eress goal is to make Erex the preferred solution for the railway sector and to attract new partners.

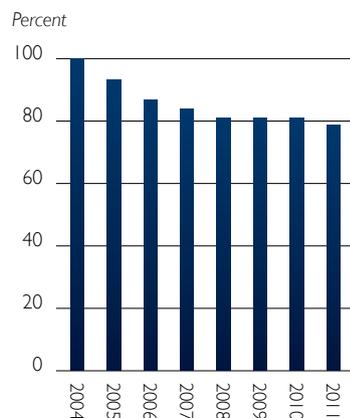
By joining Eress, new partners will acquire an ownership share equal to the existing partners and enjoy a full set of various advanced modules and services included in Erex. Erex covers the whole chain from energy metering to energy billing solutions. New partners can freely adjust its own Erex depending on its level of requirements both nationally and internationally.

Eress continues to follow the standardisation and harmonisation processes taking place in the European railways. Our involvement in European standardisation programmes will ensure a continuous improvement and compliance with standards of all our products and services. It is clear that the harmonisation in the railway sector will continue in the years ahead and with Erex you can be prepared for the future.

## 20 Net Present Value Eress (EUR million)



## Reduction in Wh per Gross ton Km



## FINANCIAL HIGHLIGHTS

Eress is a project with high payback for all parties involved. Assuming 10% savings, based on an annual energy cost of EUR 250 million, the net present value of Eress with a discount rate of 7% is EUR 355 million. Our customers, the railway undertakings, will realise this. The net present value calculation is based on realistic investments and operating costs for all five partners.

### Substantial ongoing cost savings for our customers

The installation of energy measuring equipment, access to data, accurate settlement and billing all encourage railway undertakings to adopt energy efficiency programmes. By reducing energy consumption and costs, the railway sector increases its competitive advantages. As a documented example, the Norwegian National Railway (NSB) started an energy-saving project in 2005 based on measured energy data. Between 2004 and 2011 the energy efficiency was improved with 20.5%. This project has thereby allowed NSB to achieve substantial cost savings.

One major achievement throughout this project is that NSB has gotten a new understanding of energy consumption. "Everyone in the organization understands how the energy consumption affects the production, and how they can contribute to further reductions."


**Terje Stømer**

Chairman of Eress and representative of the  
Norwegian National Rail Administration

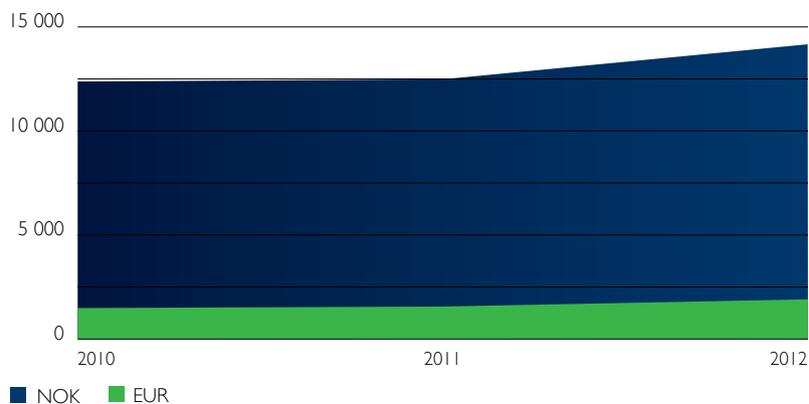

**Dyre Martin Gulbrandsen**

Director of Eress

## ACCOUNTING FIGURES

Income Statement	Notes	2012	2012	2011	2011	2010	2010
		in NOK thousand	in EUR thousand	in NOK thousand	in EUR thousand	in NOK thousand	in EUR thousand
<b>Operating income</b>							
Total operating income	1, 2	14 106	1 887	12 352	1 586	12 261	1 531
<b>Operating expenses</b>							
Total operating expenses	1, 2, 3, 5	14 106	1 887	12 352	1 586	12 260	1 531
Operating result		0	0	0	0	2	0
<b>Financial items</b>							
Net financial items		0	0	0	0	2	0
Annual result		0	0	0	0	0	0

### Total Operating Income (EUR million)



## NOTES TO THE FINANCIAL STATEMENTS

### Note 1: Accounting principles

Project expenses entered as incurred. Project income is recognised when the expenses are allocated to the partners. Project income consist of payments for three quarters and deposits for the fourth quarter from the partners and is calculated according to each partner's share of the operational and maintenance costs.

### Note 2: Exchange rate

The project accounts are based on an exchange rate of EUR 0.13379 / NOK.

### Note 3: Personnel expenses

Dedicated personnel in Jernbaneverket Bane Energi work with Eress. During 2012, Eress paid EUR 844 000 for services performed by Bane Energi personnel.

### Note 4: Depreciation

Depreciation of investments does not have an impact on the income statement. Investments and depreciation are accounted for directly by the partner organisations (Banedanmark, Trafikverket, Infrabel and Jernbaneverket).

### Note 5: Analysis of other operating expenses

	2012 in NOK thousand	2012 in EUR thousand	2011 in NOK thousand	2011 in EUR thousand	2010 in NOK thousand	2010 in EUR thousand
Consultant services	13 697	1 832	12 062	1 548	8 143	1 017
Telephone and data communication	32	4	38	5	20	2
Other costs	377	50	252	32	288	36
Total	14 106	1 887	12 352	1 586	8 450	1 055

# AUDITOR'S REPORT 2012

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To Eress' partner organisations

## INDEPENDENT AUDITOR'S REPORT

### Report on project accounts

We have audited the project accounts for the Eress project ended on 31.12.12. The project accounts comprise an income statement and notes. The project accounts have been prepared by the Chairman of Eress, Director of Eress and Finance Manager of Bane Energi in accordance with note 1.

#### *Managements Responsibility for the project accounts*

Management of Eress is responsible for the preparation of the project accounts and for such internal control as management determines is necessary to enable the preparation of a project account that is free from material misstatement, whether due to fraud or error.

#### *Auditor's Responsibility*

Our responsibility is to express an opinion on this project accounts based on our audit. We have conducted our audit in accordance with laws, regulations and auditing standards and practices in Norway, including International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the project accounts are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the project accounts. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the project accounts, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation of the project accounts in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting principles used as well as evaluating the overall presentation of the project accounts.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### *Opinion*

In our opinion, the project accounts for the Eress project ended on 31.12.12 have, in all material respects, been prepared in accordance with the basis for accounting as described in note 1.

#### *Basis for accounting*

Without qualifying our opinion, the project accounts have been prepared to give information to the Eress partner organisations and are therefore not necessarily suitable for other purposes.

Oslo, 22 April 2013  
Deloitte AS

Ragnar Nesdal  
State Authorized Public Accountant (Norway)

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Medlemsrett til Lønn Service Besøksnummer  
Org nr: 980 211 242

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Finnish Transport Agency

**INFRABEL**  
*Right On Track*

banedanmark



 **TRAFIKVERKET**  
SWEDISH TRANSPORT ADMINISTRATION

 **Jernbaneverket**

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**[www.eress.eu](http://www.eress.eu)**