European partnership for railway energy settlement systems

Annual Report 2011
Eress helps railways save money and reduce CO₂ emissions by providing exact billing based on actual consumption.

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

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

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

A NEW CHAPTER

2011 completed the first phase in the development of Erex. Unit costs have been dramatically reduced, the number of partners has increased, and as of 2012 future partners can join the partnership for free. They join a fully developed system, operational from day one and prepared for the future – without having to pay any entrance fee. 2012 opens a new chapter in the story of the energy settlement system of tomorrow.

- 4.346 GWh of electric energy settled in Erex
- 2,710 traction units handled by Erex
Erex is being used by Virgin and in commercial operation for the last two years.

Facts
- One of the world’s most recognized and respected brands
- Conceived in 1970 by Sir Richard Branson
- Business ranging from mobile telephony, travel, financial services, leisure, music, holidays, and health & wellness
- 50,000 employees in 34 countries
- Global branded revenues around EUR16bn (2011)

Chosen by the Most Discerning

The world is increasingly focused on efficiency in use of resources, by being better, faster and greener. A company known to be a champion in this aspect is the worldwide company Virgin. Their train company in UK has used energy metering the last 5 years as a tool for energy efficiency.

When the national infrastructure manager Network Rail opened for billing based on actual consumption Virgin was their test partner feeding them data by using the system and services of Eress. These services and systems has now been in commercial operation for 2 years.
“Without meters it is very difficult to get a return on energy saving investments”, says Bart Van der Spiegel, Infrabel.

Facts

- 12,750 employees
- 14 train operators
- 4,582 kilometres of railway track
- 12,101 switches
- 1,974 signals
- 1,103 level crossings
- 379 unmanned stops
- 425 signalling lines
- €1.078 billion euro invested in 2010
- €206 million euro invested for your safety in 2010
- €1,063.93 million euro turnover in 2010
- 1,376 GWh energy settled by Erex

Reliable Delivery

Belgium is one of Europe’s most crowded railway networks. Erex handles extremely large amounts of data for Belgium’s Infrastructure Manager Infrabel. After starting with Erex more Railway Undertakings in and outside Belgium started being aware of their energy consumption.

“An energy meter is no longer regarded as something futuristic, but as a useful tool that will help in receiving a correct invoice for your real consumption. Without meters it is very difficult to get a return on energy saving investments”, says Bart Van der Spiegel, Energy Management, Infrabel.
Complex data processes become easy in the energy settlement system of tomorrow.

After several years of testing and tuning the systems’ processes and platform, the focus has shifted to user-friendliness. Erex is still based on the same models, but simpler and far more intuitive. The system shows where one is in the process and makes it easier to navigate through the different tasks. Data processes become easy in the energy settlement system of tomorrow.

**FACTS**

- Easy overview
- Advanced data validation of energy and position
- Wide range of statistics and reports
- Map for showing errors

**FRIENDS WITH THE USER**
Eress Forum, the place where European railway and energy efficiency meet

Facts
- 5th Eress Forum: June 13, 2012
- Where: Prague, Czech Republic
- Participants: ca. 110
- Number of countries represented: 17
- Speakers: 22

A EUROPEAN AUTHORITY

What began as a domestic user council for Scandinavian train companies, has in just a few years developed into one of the most important arenas for discussion on energy use in the European railway sector. Today, Eress Forum attracts infrastructure owners, train companies, supplier, national and European authorities as well as research institutions from the whole of Europe, making Eress an authority on the issue of European energy efficiency for railways.
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 and the further development and operation of Erex.

Eress’ management and operational organisation is located at Jernbaneverket Bane Energi, the energy department of Jernbaneverket. It acts on behalf of Eress and uses its expertise and know-how in the administration and operation of Erex. 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.
MESSAGE FROM THE BOARD OF DIRECTORS

The year 2011 is marked by the decision from the Board of Directors that new partners can join the partnership for free. The incentives to join Eress are strengthened as the obligation to pay an entrance fee has been waived, says Terje Stømer, Eress Chairman. 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 price available 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 has seen an increased interest in Erex system throughout 2011. Any interested party has the opportunity to test Erex for a limited time period without joining Eress as partner.

Eress is pleased to welcome the final voting and publication of EN 50463 on Energy measurement on-board trains. We also look forward for the outcome on the process of merging the two TSIs Loc&Pas and Energy. Our involvement in European standardisation programmes will ensure a continuous improvement and compliance with standards of our system and services. It is clear that the harmonisation in the railway sector must and will continue in the years ahead and with Erex you can be prepared for the future.

The Board of Directors: Kåre Stig Nielsen, Bart Van der Spiegel*, Terje Stømer and Lars Johansson

* Member of the board and replacing Richard Marcelis

Terje Stømer
Chairman of Eress and representative of the Norwegian National Rail Administration

Lars Johansson
Representative of the Swedish Transport Administration

Kåre Stig Nielsen
Representative of the Danish National Railway Agency

Richard Marcelis
Representative of the Belgian Railway Infrastructure Manager
FINANCIAL HIGHLIGHTS AND ACCOUNTING FIGURES

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 four 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.
Accounting Figures

Statement in NOK in EUR in NOK in EUR in NOK in EUR

Operating income
Total operating income 12,352 1,586 12,261 1,531 9,133 1,046

Operating expenses
Total operating expenses 12,352 1,586 12,260 1,531 9,131 1,045
Operating result 0 0 0 0 12 1

Financial items
Net financial items 0 0 0 0 11 1
Annual result 0 0 0 0 0 0

Oslo, June 5, 2012

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 0.128370 / NOK.

Note 3: Personnel expenses
Dedicated personnel in Jernbaneverket Bane Energi work with Eress. During 2011, Eress paid EUR 565,000 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

<table>
<thead>
<tr>
<th>Year</th>
<th>Consultant services</th>
<th>Telephone and data communication</th>
<th>Other costs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2,962</td>
<td>1,548</td>
<td>235</td>
<td>5,746</td>
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<tr>
<td>2010</td>
<td>8,163</td>
<td>8,185</td>
<td>269</td>
<td>17,623</td>
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<tr>
<td>2009</td>
<td>10,177</td>
<td>7,037</td>
<td>36</td>
<td>18,588</td>
</tr>
</tbody>
</table>

Note: All figures are in NOK thousand.
Auditor’s Report 2011

Deloitte

To Eneracon partner organisations,

INDEPENDENT AUDITOR’S REPORT

Report on Project Accounts

We have audited the project accounts for the Eneracon project entitled 31-12-11. The project accounts comprise an income statement and balance sheet. The project accounts have been prepared by the chairman of Eneracon, Director of Eneracon and Finance Manager of Eneracon in accordance with note 1.

Management’s Responsibility for the Project Accounts

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

Auditor’s Responsibility

Our responsibility is to express opinions on the project accounts based on our audit. We conducted our audit in accordance with auditing standards issued by the Financial Reporting Council of the United Kingdom or, as applicable, by the Institute of Chartered Accountants in Scotland. Our audit included examining, on a test basis, evidence supporting the amounts and disclosures in the project accounts. We evaluated the significant accounts and disclosures in the project accounts, and the effect of the significant accounts and disclosures on the auditor’s judgment in 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 Eneracon project entitled 31-12-11 are, in all material respects, free from material misstatement.

Gbis, Ret J 2012
Deloitte AS

Tigran Stepanyan
Senior Auditor
Head, Tax and Public Accounting (Norway)

Audit & Advisory,Tax & Legal, Consulting, Financial Advisory.