European Railway Energy Settlement System

eress

ANNUAL REPORT 2008

Infrabel · Jernbaneverket · banedanmark · BANVERKET

Eress2, eng

Årsrapporter ERESS

Contents

Message from the Board

We are proud to announce that the Partnership has changed name from Nordic Railway Energy Settlement System (NRESS) to European Railway Energy Settlement System (ERESS).

The Partnership is developing, offering and supplying state-of-the-art energy settlement systems for the European railways. ERESS is established as Europe's leading energy settlement solution for trains.

In 2008 a significant milestone was reached as the ERESS Partnership became truly European with the inclusion of the Belgian Railway Infrastructure Manager Infrabel NV. By joining, Infrabel NV became partner in the leading European solution for settling train energy consumption for national and cross-border traffic.

New partners joining will benefit from the experiences of an already proven system and will in this way be able to accomplish more in less time. In addition, ERESS allows the delivery of a custom designed and technologically advanced settlement system at the most competitive cost available. ERESS is a flexible organisation, always ready to work in partnership to meet the challenges ahead.

We will continue to provide the same products and fine services on which we have built our reputation in the railway industry, and we are now extending them with the integration of an international validation, distribution and splitting module to our current system.

The ERESS has been fully operational for two years and produces high quality results as expected. With the introduction of ERESS, our customers, the Railway Undertakings, have achieved substantial energy and cost savings.

Overall, we are proud of the work our team has accomplished, and look forward to the successes we will certainly achieve going forward.

Considering the challenges currently facing the railway sector, there are more reasons than ever to join hands with new partners and work toward a common goal of creating a competitive and sustainable railway industry.

The long-term objective of ERESS is to become a European standard. We believe that future demands for harmonisation of the European railways and the increased focus on the environment will lead ERESS to become the common European system.

The Board of Directors

From the left to the right: Terje Stømer (Director of Jernbaneverket Bane Energi), Lars Johansson (member of the board), Johnny Brevik (Chairman), Rasmus Henrik Rohlff (member of the board) and Bart Van der Spiegel (member of the board and replacing Richard Marcelis).

Johnny Brevik
Chairman of ERESS and Representative of the Norwegian National Rail Administration

Lars Johansson
Representative of the Swedish National Railway Agency

Rasmus Henrik Rohlff
Representative of the Danish National Railway Agency

Richard Marcelis
Representative of the Belgian Railway Infrastructure Manager

ERESS Partnership Overview

Identity

European Railway Energy Settlement System (ERESS) is a partnership of four European Infrastructure Managers that are involved in the search for optimal common solutions for settling train energy consumption, particularly for cross-border traffic. The Partnership is open for Infrastructure Managers and based on a non-profit agreement where existing and future parties have the same rights. The settlement system is jointly owned by the four partners.

Mission

ERESS Partnership implements, develops and supplies an advanced energy settlement system for trains in order to improve railway interoperability and to be the benchmark in the railway sector. ERESS provides an efficient, reliable, accurate and flexible energy settlement system to enable both 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.

European solution

ERESS is Europe's leading energy settlement solution for trains and the only system fulfilling requirements for interoperability and accurate settlement and invoicing. Infrastructure Managers in Norway, Belgium, Denmark and Sweden own and use the system. In addition, several European Railway Undertakings are currently testing the system.

"unique on the market"

"Encourage energy efficiency through competition by providing an advanced settlement system to railways"

Organisation structure

The ERESS Board of Directors consists of representatives from each of the four partners, joint owners of the system. Each representative is appointed by its Infrastructure Manager and the chairman is elected by the representatives. The ERESS Board of Directors is responsible for the strategic direction and the further development and operation of ERESS.

Owners and Members of ERESS Board of Directors

BaneDanmark	**Jernbaneverket**	**Banverket**	**Infrabel NV**
The Danish National Railway Agency	The Norwegian National Rail Administration	The Swedish National Railway Agency	The Belgian Railway Infrastructure Manager

Management and operational organisation

Metering

Settlement

Data management

Development

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 competence and know-how for administration and operation of the railway energy settlement system. Another principal task is to conduct the continuous improvement and development of the railway energy settlement system in order to meet the future needs of partners and customers. The director of the ERESS management and operational unit is Dyre Martin Gulbrandsen.

From left to right: Bjørn Lysne, Reidun Jørgensen, Gunn-Helene Krogstad, Dyre Martin Gulbrandsen (Director of ERESS), Saraha Dischington and Elin Oldervik.

Significant Developments of 2008

• New partner brings new challenges and provides new opportunities

In June 2008, Infrabel NV became a full member of ERESS Partnership and enjoys the same rights and obligations as the other existing partners. Through ERESS Partnership, Infrabel NV will gain experience of an already proven system and will rapidly accomplish more in less time. In addition, the flexibility of ERESS allows the delivery of a custom designed and technologically advanced settlement system at the most competitive cost available.

As a partner Infrabel NV brings added value to the Partnership and the system. It represents an opportunity for ERESS to benefit from significant expertise in railway issues and to handle more challenges regarding energy metering and settlement. Among such challenges and opportunities are the integration of the Belgian train management system and the concept of train-leasing into ERESS. The developments made to the system will be beneficial to all partners and the railway sector.

• Continuous involvement in the international work

As part of the involvement of ERESS Partnership in the competitiveness and interoperability enhancement of the railway sector, a practical approach of the Union Internationale des chemins de fer (UIC) leaflet 930, "Exchange of data in connection with cross-border railway energy settlement," is to be launched in June 2009.

Given the numerous technological innovations that are available in the market, it is important for ERESS to support any type of system.

The leaflet has been officially approved in November 2008 by the UIC organisation. It sets business processes and a framework of how metered data should be transferred to the on ground systems and distributed to the Infrastructure Managers' settlement systems for billing purposes. The leaflet applies to both Infrastructure Managers and Railway Undertakings realising international traffic in Europe.

This practical approach results in the development of an international validation, splitting and distribution module in compliance with the UIC leaflet. The module will be able to receive metered data from any collection system. Once checked and split, validated data will be distributed to the respective Infrastructure Managers.

The international module is meant for both Infrastructure Managers and Railway Undertakings.

With this module, Infrastructure Managers leave open the possibility to the Railway Undertakings of choosing any type of energy metering unit in accordance with the future CENELEC norms . This module represents a quality, cost-effective solution for Infrastructure Managers who are only equipped with a collection system with no capacity to perform validation, but who need to exchange validated metered data with other Infrastructure Managers for billing purposes.

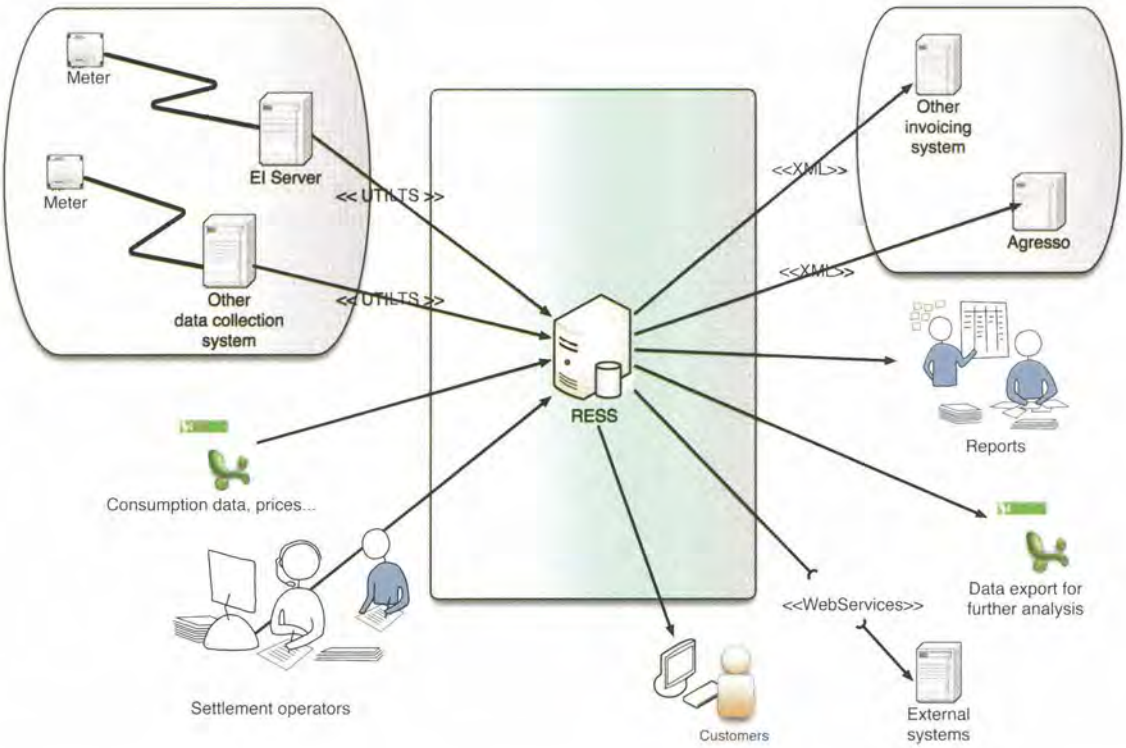
Railway Undertakings are also welcome to use the module. At their request ERESS could connect their meters to the module and will manage them in the same capacity as regular Infrastructure Managers. A great opportunity for Railway Undertakings to make sure that they will be invoiced on the basis of their real consumption by the different Infrastructure Managers. Making data accessible to the Railway Undertakings is a significant driving force for energy efficiency programs and consequently an effective lever to manage their energy consumption.

• ERESS also supports Railway Undertakings in the process of metering

One of the main goals of the ERESS Partnership is to maintain and enhance railway competitiveness in comparison with other competiting modes of transport. In this perspective, ERESS Partnership offers to Railway Undertakings and Infrastructure Managers the possibility to test for a limited time period a simplified version of the existing system ERESS through an agreement called "test participant concept". The Infrastructure Managers can afterwards opt for joining the Partnership in order to use a full scale system.

Both Railway Undertakings and Infrastructure Managers will gain significant experience through the "test participant concept". The major objectives are to provide practical experience of meters on board and to prepare the ground for cross border traffic. Several Railway Undertakings are currently testing the system.

Development of ERESS



Energy data from metering equipment on board are collected by collection systems and transferred to ERESS in UTILTS format. ERESS supports any type of data collection or train management system whether they have an integrated validation module or not. This flexibility is possible, thanks to the use of standard interfaces and the implementation of an international validation, splitting and distribution module in accordance to the UIC leaflet 930.

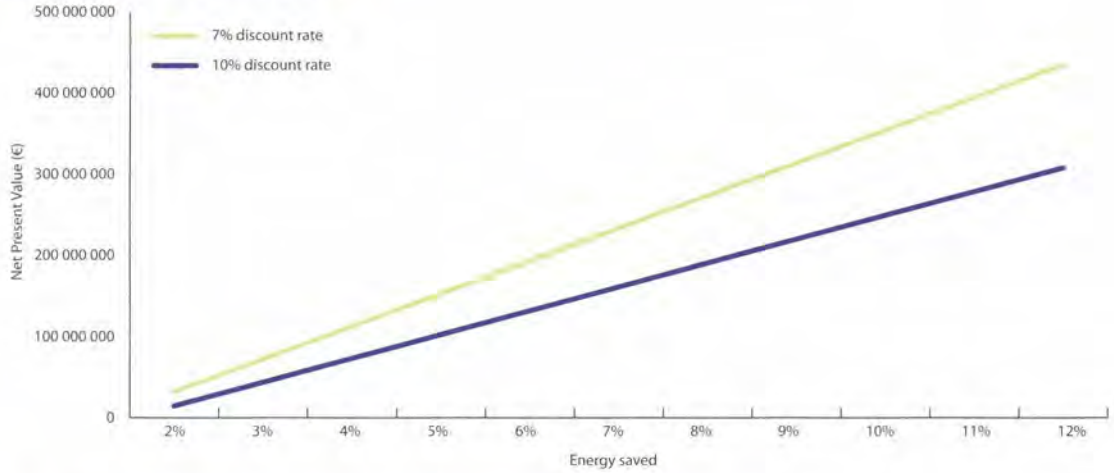
As access to train consumption data is subject to commercial confidentiality, train operators can only consult the raw and settled billing data related to their trains, whereas Infrastructure Managers can access to the whole data set of Railway Undertakings operating on their grid areas. Both have access to the data through an Internet user interface. Additional service like Web Service has been developed in order to provide better service to Railway Undertakings using metered data in their internal energy management processes.

Financial Highlights

ERESS – a profitable project

The ERESS is a highly profitable project. With the assumption of 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. This is realised by our customers, the Railway Undertakings. The net present value calculation is based on realistic investments and operating costs for all 4 partners.

Net Present Value ERESS (EUR)

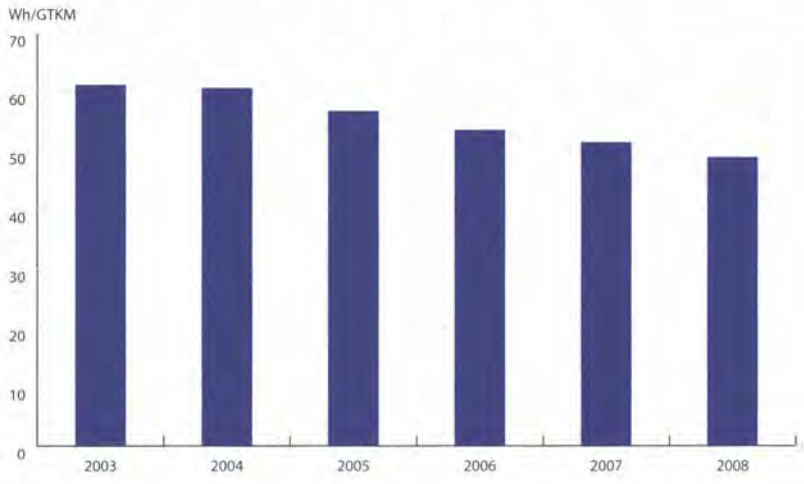


Substantial ongoing cost savings for our customers

Installations of meters, access to data and accurate settlement and billing incite Railway Undertakings to adopt energy efficiency programs in order to reduce energy consumption and cost, and thereby increase the railway sector's competitive advantages. As a documented example, the Norwegian National Railway (NSB AS) started a five-year energy saving project in 2005 based on metered data. Through the project they have realised a substantial cost savings:

- 17.5 % energy efficiency improvement between 2005 and 2008
- 12% additional efficiency improvement is expected by 2012

Annual energy consumption per Gross ton Km



"You can only manage what you can control, and control is worthless without measuring"

Accounting Figures

INCOME STATEMENT	NOTES	2008 (in NOK thousands)	2008 (in EUR thousands)	2007 (in NOK thousands)	2007 (in EUR thousands)
Operating income					
Other operating income	1, 2	5 360	596	2 414	303
Total operating income		**5 360**	**596**	**2 414**	**303**
Operating expenses					
Payroll expenses	1, 3		0	0	
Depreciation	1, 4		0	0	
Other operating expenses	1, 5	5 359	596	2 414	303
Total operatinmg expenses		**5 359**	**596**	**2 414**	**303**
Operating result		**1**	**0**	**0**	
Financial income and expenses					
Financial income		0	0	0	0
Financial expenses		1	0	0	0
Net financial items		**1**	**0**	**0**	**0**
Annual result		**0**	**0**	**0**	**0**

Oslo, 18 May 2009

Terje, Stømer, Director of Jernbaneverket Bane Energi

Johnny Brevik, Chairman of ERESS

Accounting Principles

Jernbaneverket Bane Energi is a separate reporting unit in Jernbaneverket. Jernbaneverket Bane Energi is not a separate tax entity.

Jernbaneverket produces its accounts according to the state accounting principles, but since 1996 Jernbaneverket Bane Energi has ordinary accounting principles.

Given the regulations in the Norwegian Energy Act, Jernbaneverket Bane Energi is obliged to prepare its own annual accounts in compliance with the Accounting Act (Norway) and generally accepted accounting principles in Norway. The annual financial statements are prepared under the assumption that account items allocated to Jernbaneverket Bane Energi in the overall financial statements of Jernbaneverket are attributable to Bane Energi.

Notes to the financial statements

Note 1: This report uses an exchange rate of EUR 0.1112 / NOK.

Note 2: Income consists 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 3: Dedicated personnel in Jernbaneverket Bane Energi work with ERESS. During 2008, ERESS paid EUR 189 000 for personnel services.

Note 4: Depreciation of investments does not have an impact on the accounting figures. Investments and depreciation are borne by the partner organisations (Banedanmark, Banverket , Infrabel and Jernbaneverket).

Note 5: Analysis of other operating expenses in EUR thousands.

	2008 (in NOK thousands)	2008 (in EUR thousands)	2007 (in NOK thousands)	2007 (in EUR thousands)
Consultant services	3 504	390	1 020	128
Telephone and data communication	9	1	133	17
Personnel costs	1 702	189	1 247	156
Other costs	144	16	14	2
Total	**5 359**	**596**	**2 414**	**303**

Note 6: In 2008 the Belgian Railway Infrastructure Manager Infrabel NV became partner in ERESS. According to the co-operation agreement they paid 4 179 million NOK. This represents ¼ of the investments costs at the stage of accession. The steering committee of ERESS decided to set the payment into a deposit account.

Auditor's report for 2008

ERNST & YOUNG

Statsautoriserte revisorer
Ernst & Young AS

Christian Frederiks pl. 6, NO-0154 Oslo
Oslo Atrium, P.O.Box 20, NO-0051 Oslo

Foretaksregisteret: NO 976 389 387 MVA
Tlf.: +47 24 00 24 00
Fax: +47 24 00 24 01
www.ey.no

Medlemmer av Den norske Revisorforening

To Bane Energi

Statement on ERESS for 2008

We have audited the project accounts concerning ERESS for 2008. Total income constitutes NOK 5 360 000, and total costs NOK 5 360 000. Bane Energi's Director and Chairman of ERESS are responsible for the project accounts. Our responsibility is to express an opinion on the project accounts based on our audit.

We conducted our audit in accordance with laws, regulations and auditing standards and practices generally accepted in Norway, including the auditing standards adopted by the Norwegian Institute of Public Accountants, and our statement is based on auditing standard RS 800 "The auditor's report on special purpose audit engagements". Those standards and practices require that we plan and perform the audit to obtain reasonable assurance about whether the accounts are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and the significant estimates made by management, as well as evaluating the overall presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the project accounts concerning ERESS present fairly, in all material respects, the project results for the period in accordance with accounting standards, principles and practices generally accepted in Norway.

Oslo, 18 May 2009
ERNST & YOUNG AS

Suzanne Amundsen
State Authorised Public Accountant (Norway)

Verification of ERESS by a Third Party

Det Norske Veritas (DNV) has performed a third party verification of the settlement system.

DNV

Verification of NRESS Energy Settlement System for JBV:

Report for Jernbaneverket
Report no.: 2007 - 0221
Rev 1.1,
25 May 2007

MANAGING RISK DNV

Verification of NRESS Energy Settlement System for JBV

Jernbaneverket

Postboks 1162 Sentrum
0107 OSLO

DET NORSKE VERITAS AS
Veritasveien 1
1322 Høvik
Tel: +47 67 57 99 00
Fax: +47 67 57 99 11
Registered in Norway
NO 945 748 931 MVA

Client ref: Gulbrandsen, Dyre Martin

Report No.: 2007 - 0221 Subject Group:

Indexing terms:

Summary: As part of the development of the energy settlement system, NRESS, JBV has entered a contract with Det Norske Veritas (DNV) for verification of the IT system and its legal basis.
Det Norske Veritas is of the opinion that NRESS including use of the ElServer is a viable system for handling of energy settlements for trains.
Rev 1: Settlement calculations has been improved from the system that DNV investigated and is now on an acceptable level.

Prepared by: Name and position: Fredrik Marcus, Consultant — Signature: Terje Andersen

Verified by: Name and position: Terje Andersen — Signature: Terje Andersen

Name and position — Signature

Approved by: Name and position: Christopher Serck-Hanssen — Signature: Stine U Husævs

Date of issue: 25 May 2007

Project No: 641196936

* Please use Project No as reference in all correspondence with DNV

- [x] No distribution without permission from the client or responsible organisational unit (however, free distribution for internal use within DNV after 3 years)
- [ ] No distribution without permission from the client or responsible organisational unit
- [ ] Strictly confidential
- [ ] Unrestricted distribution

MANAGING RISK DNV

An updated verification of ERESS will be released this year as the system continues to improve

ISO certification

Operational and management organisation in Bane Energi is certified according to ISO 9001:2000.

Certificate of Registration

MOODY INTERNATIONAL

Bane Energi

Has been assessed and certified against the following standard:

NS-EN ISO 9001:2000

The Scope of certification is:

Trading, Production and Distribution of Electric Power for Railways.
Construction and Operation of Electric Power plants and Transformers.

Certificate number: 019

Date of issue: 20th March 2007
Valid until: 20th March 2009

Authorised Signature
Moody International Certification AS
www.moodyint.com

NORWEGIAN ACCREDITATION QUAL 006

The use of the Accreditation Mark indicates accreditation in respect of those activities covered by the Accreditation Certificate QUAL 006.
The certificate remains the property of Moody International Certification AS to whom it must be returned on request.

Certificate of Registration

MOODY INTERNATIONAL

Bane Energi

Has been assessed and certified against the following standard:

NS-EN ISO 9001:2000

The Scope of certification is:

Trading, Production and Distribution of Electric Power for Railways.
Construction and Operation of Electric Power plants and Transformers.
Including ERESS, European Railway Energy Settlement System

Certificate number: 019

Date of issue: 20th March 2009
Valid until: 20th March 2012

Authorised Signature
Moody International Certification AS
www.moodyint.com

NORWEGIAN ACCREDITATION QUAL 006

The use of the Accreditation Mark indicates accreditation in respect of those activities covered by the Accreditation Certificate QUAL 006.
The certificate remains the property of Moody International Certification AS to whom it must be returned on request.

Approval of the Meter by the German National Metrology Institute (PTB)

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

Innerstaatliche Bauartzulassung

Type-approval certificate under German law

Zulassungsinhaber: *Issued to:*	LEM NORMA GmbH Liebermannstraße F01 Campus 21 2345 Brunn am Gebirge Österreich
Rechtsbezug: *In accordance with:*	§ 13 des Gesetzes über das Mess- und Eichwesen (Eichgesetz) vom 23. März 1992 (BGBl. I S. 711)
Bauart: *In respect of:*	Einphasenzähler (elektronisches Messwerk) EM4T...
Zulassungszeichen: *Approval mark:*	20.15 03.21
Gültig bis: *Valid until:*	unbefristet
Anzahl der Seiten: *Number of pages:*	16
Geschäftszeichen: *Reference No.:*	2.33 - 01006573

Im Auftrag
By order

Braunschweig, 2003-10-29

Siegel
Seal

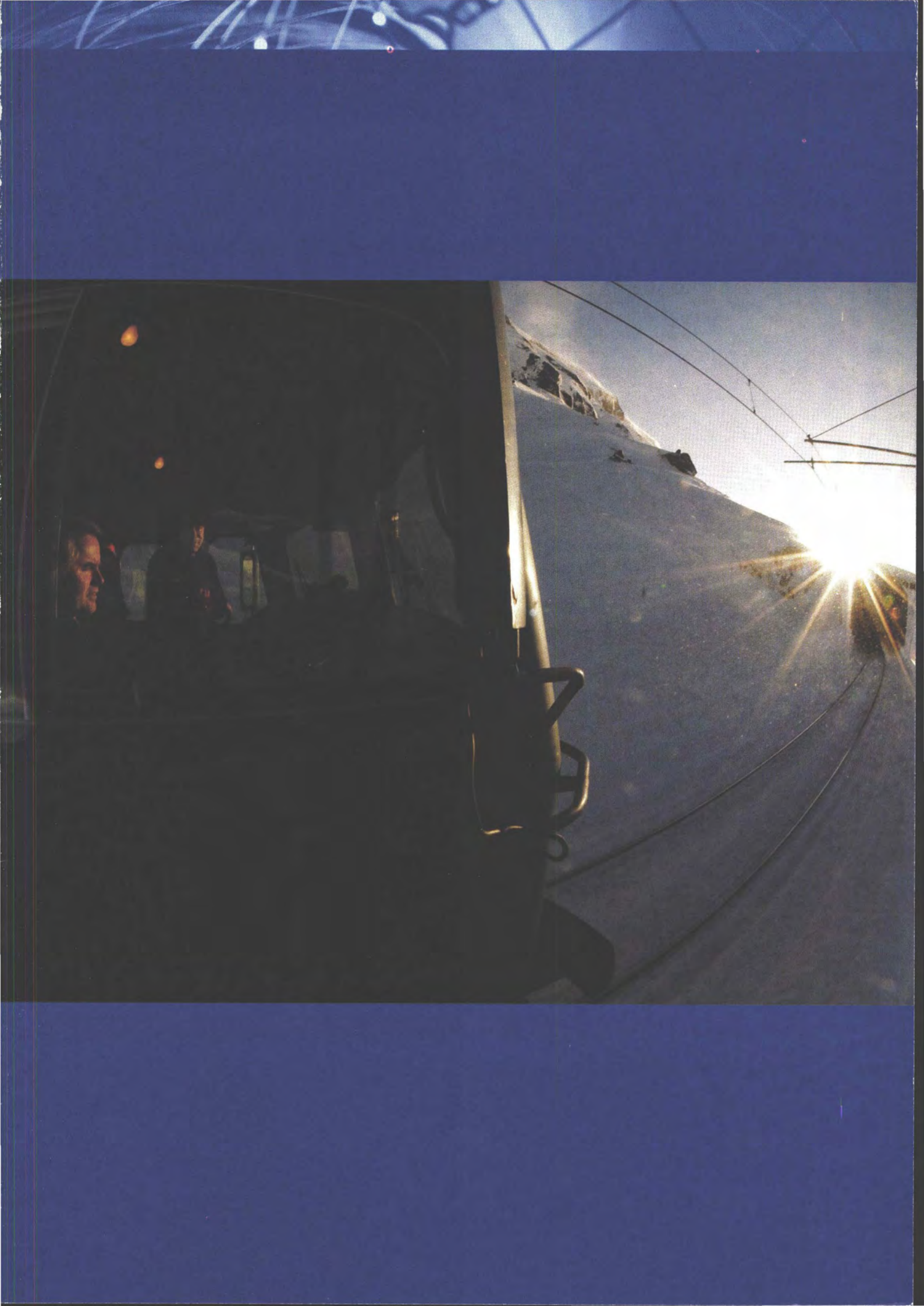
Dr. M. Kahmann

394 00 c-rb

Merkmale zur Bauart sowie ggf. inhaltliche Beschränkungen, Auflagen und Bedingungen sind in der Anlage festgelegt, die Bestandteil der innerstaatlichen Bauartzulassung ist. Hinweise und eine Rechtsbehelfsbelehrung befinden sich auf der ersten Seite der Anlage.
Characteristics of the instrument type approved, restrictions as to the contents, special conditions and approval conditions, if any, are set out in the Annex which forms an integral part of the type-approval certificate under German law. For notes and information on legal remedies, see first page of the Annex.

The Railway issues ERESS Can Solve

- Cross-border train traffic
- Changing energy price areas
- Train consumption, time and position connected to the relevant market price
- Exchanging energy consumption between Infrastructure Managers
- In compliance with the UIC leaflet "Exchange of data in connection with cross-border railway energy settlement"
- Introduction of new services like clearing systems and a clearing office
- Opportunities for train operators to realise data analysis for eco-driving and to conduct energy saving projects
- Simplify the numbers of contact points for cross border transport companies
- Developing an equal basic tariff and invoice rules
- Advanced use of profiles for non-metered consumption
- Consistent treatment of energy loss distribution and settlement
- Deadline for reporting energy consumption to the customer and market
- Reducing the financial risks



NORDISK MILJØMERKING
541 Trykkeri 672

Geelmuyden.Kiese. Photo: Lillian Jonassen, Øystein Grue, Reidun Jørgensen

CONTACT INFO

For questions or information regarding ERESS please visit www.eress.eu or contact ERESS by e-mail eress@jbv.no or phone +47 22 45 50 00