



EUROPEAN FEDERATION OF MUSEUM & TOURIST RAILWAYS

Fédération Européenne des Chemins de Fer Touristiques et Historiques

Europäische Föderation der Museums- und Touristikbahnen

International Heritage Railway Conference

Dornbirn, Austria

21-23/04/2016

Conference Proceedings



Conference 2016

Dornbirn, Austria

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Content

Please click on the speaker's name to get directly to the presentation or script.

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Heritage Business Consultant, Chichester Brand Services
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Chairman Verein Kaltenleutgebener Bahn
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WATTRAIN Chief Executive Officer; HRA Business Committee

GENERATING SUSTAINABLE INCOME FROM SECONDARY SPEND

CHRIS WALTON



WHAT IS SECONDARY SPEND?

- ▶ Any purchase by a visitor not directly related to entry
- ↪ Catering
- ↪ Retail
- ↪ Events

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Measuring performance

- ▶ Conversion visitor/customer %
- ▶ Average spend € / £
- ▶ Gross profit margin %
- ▶ Net profit margin %

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Remember:

- ▶ Activity is not productivity - it's the profit not the turnover
- ▶ Identify the need - don't assume you know what people want to buy, use exit surveys
- ▶ Keep a diary - weather, local events, international events can affect results
- ▶ Train your volunteers in customer service
- ▶ Beware of over-generous discounts to members, staff and other associations
- ▶ ACT QUICKLY IF RESULTS FALL

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Doing a little well is far better than doing it all badly!

If you are short of resources then focus on your core purpose

In catering -a small but well managed menu is more profitable than the wastage caused by doing too many dishes

In retail -buy quality products that reflect who you are with unique images or your brand

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Set achievable targets and measure the outcome regularly

- ▶ Explain and agree the targets with your team
- ▶ Keep them simple
- ▶ Measure monthly
- ▶ Ask for reports on outcome - accountability is important

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Be prepared to rationalise activity

- ▶ Provide picnic areas and vending machines instead of a café
- ▶ Have minimal sales points at entry with guidebooks, rain ponchos etc.
- ▶ License an external partner to operate the café/shop

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7

Verein Kaltenleutgebner Bahn

Working hard to create a sustainable Tourist Railway

Fabian Köhazy | Dornbirn | 23th April 2016

Main Topics

- About me
- Map
- Timeline
- The Association
- Special Trains
- Closure of the Line and Intentions to Resucue it
- Future
- Experiences

23th April 2016 | Verein Kaltenleutgebner Bahn

- About me

- Fabian Köhazy, living in Vienna, 23 years
- Chairman of Kaltenleutgebner Railway Association since 2011
- Student Railway-Technology in St. Pölten, Austria

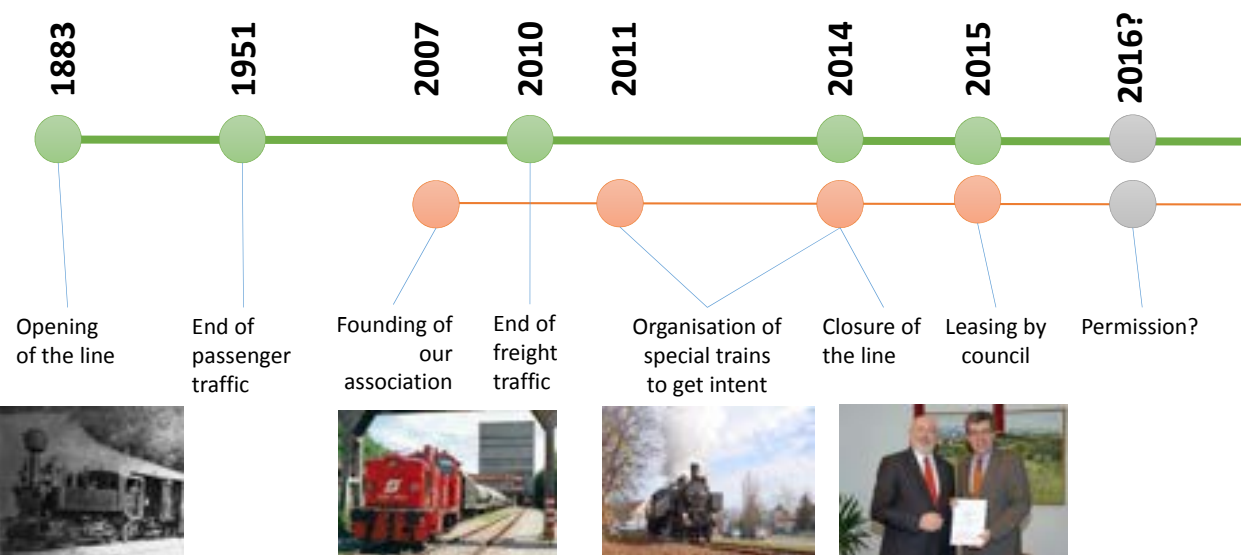
23th April 2016 | Verein Kaltenleutgebner Bahn

Map Cutout



23th April 2016 | Verein Kaltenleutgebner Bahn

Timeline



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The Association

FOUNDED 2007

• Main Aims

- Preserve the railway line as cultural heritage and traffic-infrastructure
- Perform traffic on the railway
- Setup an awareness for local railway lines
- Restoration of the old station building in Perchtoldsdorf



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Restoration of the Line

2007 TO 2009



...by the austrian federal railways
Costs: ~ 2.5 mio €



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Special Trains

2011 TO 2013

- 2 Years
- 15 Special trains
- Over 5000 passengers each direction
- Mostly with framework programme



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Special Trains

2011 TO 2013



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Income from Own Efforts

Rail Services on Public Rail Infrastructure

- Costs
 - Rent of locomotive and waggons
 - Personal
 - Infrastructure usage



- Income
 - Fares
 - Souvenirs
 - Catering
 - Donations
 - Money of council

- Realization for the future:
 - Highest potenzial of savings in personal
 - Furthermore: Own rolling stock
 - Fares (Conflict between high and low fares)

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Closure of the Line

29.01.2014



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Intensions to Rescue the Line

2013 TO 2014

- 2012 First meeting ÖBB-Infrastructure AG – high cost
- Meetings with council organisations & political parties
- 2013 Meeting with authorities of the province
- Willingness of councils
- Long proceedings until realization



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Proceedings for Take-over

SINCE 1.1.2015

- Council:
Intention for a take-over
- After 1 year of proceedings:
 - Leasing 2015 and 2016
 - Purchase Option in 2017
 - Take over by the property-company of Perchtoldsdorf
- Intensions to Rescue the Line are „very sophisticated“



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Start of Maintanance Works

2015

- Mowing & Cuting
- ~ 10 Pers. regulary working
- Very good condtion of the trackwork



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Future

Short-term

Usage as
nostalgic railway



Long-term

Usage as commuter
railway to suburbs of
Vienna

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Experiences

- Many doubts in the beginning
- Many activities to persuade representatives
- Long time for implementation
- Different People bring different ideas
- More people are helping than in the beginning
- Activities for association members

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Discussion

PLEASE FEEL FREE TO ASK QUESTIONS



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BUSINESS AND STRATEGIC PLANNING

COMMON SENSE ESSENTIALS

* A SOUND STRATEGIC PLAN

* TEN YEAR HORIZON

* THREE DISTINCT PERIODS

1 - 3 YEARS

4 – 7 YEARS

8 – 10 YEARS

• ONE YEAR STRATEGIC PLAN

KEY RAILWAY STRATEGIES

- FINANCIAL STRATEGIES
- COMMERCIAL STRATEGIES
- ENGINEERING STRATEGIES
- INFRASTRUCTURE STRATEGIES

* OPERATIONS COMMITTEE

- FINANCIAL STRATEGY

- KPI's - KEY PERFORMANCE INDICATORS

- TURNOVER
- PASSENGER NUMBERS
- STAFF LEVELS/VOLUNTEER NUMBERS
- CASH DEVELOPMENT
- FUNDRAISING NEEDS

- BUDGETS – REVENUE/COST AND CAPITAL

- COMMERCIAL STRATEGY

- THE “THINK TANK”
- WHAT SERVICE TRAINS TO RUN
- SPECIAL EVENTS AND DINERS
- RETAIL OUTLETS
- BUSINESS MODELS FOR EVENTS
- MARKETING PLAN
- COMMUNICATION

- **ENGINEERING STRATEGY**

- **LOCOMOTIVE NEEDS**
 - STEAM OR DIESEL – LARGE OR SMALL
- **COMFORTABLE CARRIAGES**
- **MAINTENANCE OF LOCOS & CARRIAGES**
- **GOODS WAGONS**
- **SECURITY AND WORKSPACE**

- **INFRASTRUCTURE STRATEGY**

- **GENERAL MAINTENANCE NEEDS**
- **CAPITAL PROJECTS**
- **KPI's OF DELIVERY AND COSTS**
- **SAFETY ETHIC**
- **OPERATING NEEDS**
 - SMS – SAFETY MANAGEMENT SYSTEM (OR SAFETY CASE)
- **A FIVE YEAR INFRASTRUCTURE PLAN**

THE BUSINESS PLAN

- THE KPI's WILL BE CENTRAL
 - INCOME STREAMS AND TOTAL TURNOVER
 - FARES
 - SPECIAL EVENTS
 - DINING TRAINS
 - RETAIL
 - ENGINEERING
 - MISCELLANEOUS
 - COSTS
 - VARIABLE (COST OF GOODS)
 - FIXED CONTROLLABLE COSTS
 - FIXED STAFF COSTS
 - FIXED OVERHEADS
 - FINANCING OF OPERATION
 - DEPRECIATION

PROFITABILITY

- PROFIT BEFORE INTEREST & TAX PBIT
- GENERATES CASH FOR BUSINESS
 - **TURNOVER = VANITY CASH IS KING !!**
- $PBIT - DEPRECIATION + TAX + INT.$
- OPERATING PROFIT

REMEMBER THE COMMON SENSE ESSENTIALS

- A SOUND STRATEGIC VISION – 10 YRS
- A ROAD MAP
- A ONE YEAR STRATEGIC PLAN
- KEY PERFORMANCE INDICATORS
- A BUDGET BASED ON KPI' s
- REVIEW OF PERFORMANCE
- PROFITABILITY
- “CASH” IS KING !!
- THE BOARD IS ULTIMATELY REPOSIBLE

AND NOW!!

- THE WHOLE EFFORT STARTS AGAIN
WITH A NEW ONE YEAR PLAN

> PROVING THAT <
- STRATEGIC BUSINESS PLANNING IS A
DYNAMIC TOOL

| NORTH NORFOLK RAILWAY PLC SUMMARY REPORT | | | | | | | | |
|---|-----------|-----------|----------|-----------|-----------|----------|-------------|-----------|
| | TRAIN | BUFFET | SHOP | SPECIAL | EDUCATION | OTHER | ENGINEERING | TOTAL |
| INCOME | 1,801,801 | 238,810 | 126,940 | 599,398 | 29,438 | 84,418 | 287,542 | 2,967,612 |
| DIRECT COSTS | (463,156) | (125,706) | (67,659) | (234,848) | (19,868) | (3,261) | (82,312) | (996,710) |
| MARGIN | 548,645 | 112,304 | 59,381 | 364,550 | 9,638 | 81,157 | 295,230 | 1,389,902 |
| | 55% | 47% | 48% | 61% | 34% | 96% | 71% | 50% |
| STAFF WAGES | (243,388) | (67,002) | 0 | (125,302) | (14,670) | 0 | (206,619) | (656,987) |
| OVERHEADS | (185,245) | (81,726) | (65,388) | (136,209) | (27,242) | (18,897) | (38,139) | (544,838) |
| GROSS MARGIN | 20,014 | (36,424) | (5,354) | 203,039 | (32,290) | 70,260 | (39,528) | 179,677 |
| | 2% | -16% | -5% | 33% | -10% | 82% | -13% | 8% |
| DEPRECIATION | (59,289) | (11,858) | (11,858) | (23,716) | (2,372) | (3,557) | (5,929) | (118,579) |
| GRANT AMORTISATION | 7,273 | 4,156 | 3,117 | 2,078 | 1,038 | 2,978 | 1,639 | 29,780 |
| PROFIT / (LOSS) | (32,292) | (44,128) | (14,735) | 181,481 | (33,623) | 68,781 | (44,418) | 81,279 |
| | -3.21% | -18.54% | -11.60% | 30.30% | -114.00% | 82.10% | -15.60% | 3.48% |



Corporate Sponsorship Lessons Learnt from the Wheatbelt Heritage Rail Project in Western Australia



Wheatbelt Heritage Rail Project

This Presentation Will Cover

- History
- Key Sponsorship Achievements
- Lessons Learnt



Why are we doing it ? Achievements



Lessons Learnt








Wheatbelt Heritage Rail Project





Rail Heritage WA
Train at Dowerin
in 2006


Aim of the Project

Improve the Sustainability of Small Communities in the Wheatbelt of Western Australia by Delivering a Social, Economic and Employment Dividend

This Resonated with Prospective Sponsors




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Wheatbelt Heritage Rail Project

Specifics of the Dividend


To develop the rural economy and stimulate growth in small towns in the Wheatbelt by implementation of a tourism initiative based around a Rail Discovery Centre and the capability to operate heritage trains on the main line.



The project will:

- Reinvigorate the small towns of the region by supporting local events.
- Increase the value of the rural economy in the region, especially Goomalling, Dowerin, Minnivale and Wyalkatchem.
- Increase employment in the region.
- Socially, use the project as a catalyst for initiatives that assist those “excluded” from mainstream opportunities.
- Facilitate demand that will lead to enhanced investment in tourism and other related infrastructure.

Sponsors understood the specifics



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Wheatbelt Heritage Rail Project



The Events



- Dowerin - Field Days in August.
- Dowerin and Wheatbelt Motorplex in April.
- Goomalling - Australia Day event.
- Wyalkatchem - Heritage Rose Festival in October.
- Easter Gala, Santa Specials, Harvest Festivals and Heritage Walks of the four towns with rail as the means of transport between the towns.

Some of our prospective sponsors have a presence at these events









Wheatbelt Heritage Rail Project



This is not a Project Driven by the Need to Preserve and Operate “Heritage” Assets

Rather

It is a Project to Utilise Assets that Would Otherwise be Cast Aside to Deliver a Social, Economic and Employment Dividend

Prospective sponsors strongly identified with this








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The dividend sponsors saw

The Alliance Partners

- Shire of Dowerin
- Rail Heritage WA


Those organisations have good governance and a track record of achievement which appealed to prospective sponsors.

Seen as Low Risk.



START WITH WHY

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The Location





NE of Perth, separated from Perth by the City's Green Belt.

The Rail Discovery Centre at Minnivale is between Dowerin and Wyalkatchem just off the Pioneers Pathway - 2.25 hours drive from Perth.

Wheatbelt Heritage Rail will operate from Goomalling, 132 kilometres - 1.5 hours drive from Perth, via Dowerin to Wyalkatchem a distance of 62 kilometres. Goomalling is within an easy drive of the relatively heavily populated NE Perth suburban area.

Hard for prospective sponsors to have a presence in those areas



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Key Achievements






- **Accreditation**
- **Minnivale Development**
- **Rail Heritage WA Work**
- **Liaison to Develop Town Presence**
- **Sponsorship**

Sponsors kept informed – your success is their success





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Wheatbelt Heritage Rail Project



Key Achievements

- **Accreditation**

The Accredited Person is granted accreditation in accordance with the Rail Safety National Law, as it applies in the participating jurisdiction, by the National Rail Safety Regulator. This accreditation is subject to the conditions and restrictions set out in this Notice.

| Item | Details |
|---|---|
| Accredited person | Wheatbelt Heritage Rail |
| ABN | 26 926 977 164 |
| Registered business address | 12 Colwell Street PO Box 113 Dawsonville 544 5401 |
| Commencement of Accreditation | 1 December 2015 |
| Expiry date of Accreditation | Not Applicable - Original Issue |
| Conditions of Accreditation | Accreditation is granted in accordance with the Rail Safety National Law as shown in Schedule 1 |
| Decision | The accreditation is granted in accordance with the Rail Safety National Law as shown in Schedule 1 |
| Type of rail operator | Rail Infrastructure Manager and Rolling Stock Operator (RIM & RSO) |
| Railway operations | The Accredited Person is authorised to carry out the railway operations listed in item 1 of Schedule 1 and 2 with respect to the: <ul style="list-style-type: none"> • rolling stock or rail infrastructure listed in item 2 and • railway or geographic boundary listed in item 3 for the equipment and using the number of operating units specified in item 4 |
| Reporting Period of safety and compliance reports | Annually for the reporting period 1 July to 30 June, with the report due within six months of the end of this period |
| Conditions relating to the accreditation | In accordance with the Rail Safety National Law Section 17 the conditions and conditions set out in Schedule 3 are imposed on the accreditation set out in this Notice |






Wheatbelt Heritage Rail Project

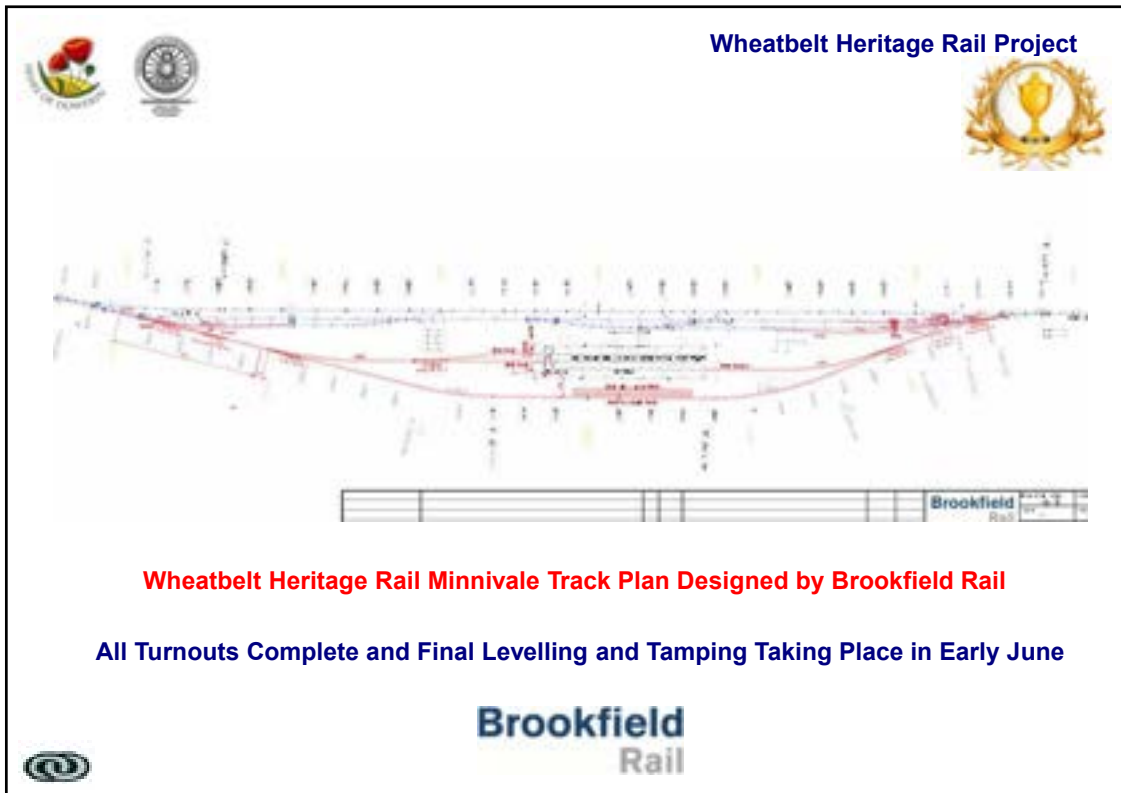

Key Achievements

- **Minnivale Development**

How did sponsors help ?










Wheatbelt Heritage Rail Project




Construction of Turnouts at Minnivale
 Brookfield Rail and Goldcon provided training in turnout construction for 6 Indigenous young men from Northam. The training saw nationally accredited skillsets being awarded to the previously unemployed young men under the Brookfield Rail Registered Training Organisation.

Goldcon laid the track








Gave us supervision



MAX Solutions
Gave us labour



Wheatbelt Heritage Rail Minnivale Works
Work for the Dole
8 Workers – CERT 3 in Rail Infrastructure








MAX Solutions

Wheatbelt Heritage Rail Minnivale Works
Work for the Dole
8 Workers – CERT 3 in Rail Infrastructure



Wheatbelt Heritage Rail Project



Key Achievements

- CERT Sponsorship**



Trained our drivers






Wheatbelt Heritage Rail Project



Wheatbelt Heritage Rail AB 1503 Diesel Electric Locomotive Provided by Aurizon








Wheatbelt Heritage Rail Project

Social Dividend

RDA Wheatbelt Wins Innovative Outreach Award at National Conference
 Regional Development Australia (RDA) Wheatbelt has been presented with the "Innovative Outreach Award" at the "Future for Young Australians Beyond 2014" Conference, held in Melbourne on 7 and 8 April 2014. The Award was in recognition of the highly successful Wheatbelt Heritage Rail Alternative Learning for Youth project.

RDA Wheatbelt's Executive Officer, Rebekah Burges said "what makes this project a particular success and why we think it stood out from the rest of the nominees at the national awards, is that all of the young people involved turned their lives around as a result of their involvement and all of them went on to either gain employment or reengage in education".






RDA Wheatbelt – gave us a worthwhile project and profile



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Wheatbelt Heritage Rail Project





CBH – leased a disused facility at
“peppercorn rate”






Wheatbelt Heritage Rail Project



Key Achievements

- Rail Heritage WA Work



RHWa have their own sponsors who
are indirectly supporting us



Wheatbelt Heritage Rail Project




Locomotive Boiler Tube Replacement








New Tubes for the Boiler

Sponsors supported our endeavours with very cheap rates


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Wheatbelt Heritage Rail Project




Locomotive Retube



Sponsors supported our endeavours with very cheap rates







New Tubes for the Boiler


LINQAGE INTERNATIONAL






Wheatbelt Heritage Rail Project






Work on Rolling Stock and Construction of An Inspection Pit at Bassendean

Sponsors supported our endeavours with very cheap rates







Sponsorship Linked to the Delivery of a Dividend has Resonated with Corporate Entities and their Support has Made the Project Achievable





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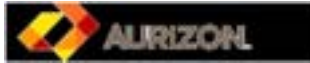
Wheatbelt Heritage Rail Project

Our Sponsors



Brookfield
Rail

Significant design work, turnouts, training and marketing support



AB Class diesel electric locomotive



Mr Barry Donkin - Significant turnout assembly, track laying



Critical Training Support and Labour



Critical Labour



Engineering Design Assistance



Locomotive Lifting Jacks



Wheatbelt Heritage Rail Project

Lessons Learnt

GET SPONSORED!

- You are selling an image to sponsors
- Look to sponsors that have difficulty in engaging in your area – offer them a solution
- Look to large corporates that have what you need and also have a need
- Combine the above with small local firms that identify locally with the project
- Do not ask for money
- Be low risk – your image is also your sponsors' image
- Allow plenty of time
- Develop the relationship – keep your sponsors informed
- Always tell a good story
- Mention sponsors and include them always



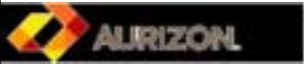


Wheatbelt Heritage Rail Project

Way Ahead



Track Access Agreement and a
Siding Licence
Assistance to Complete Minnivale



Deliver the AB Class diesel electric locomotive



Commence Training



Commence Operations for Dowerin Field Days



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DB Classic Railbus Interoperability – How Europe tries to catch up !

Ralph Müller
DB Netz AG
Technology & Asset Management STE
Programmes & Digital CCS
Methods and Processes (I.NPS 42)
Head of Research Programmes CCS



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1. What is Interoperability?
2. How interoperability developed during times
3. From political objective to technical rule
4. The DB classic railbus as representative of advanced interoperability
5. Outlook: How can we achieve a higher level of interoperability in the Single European Railway System



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Interoperability means...

“...the ability of a rail system to allow the **safe** and **uninterrupted** movement of trains which accomplish the **required levels of performance**”

(see EU Directive on the **Interoperability** of the rail system within the European Union – Recast)

but also see the EU Directive on Railway **Safety** (Recast):

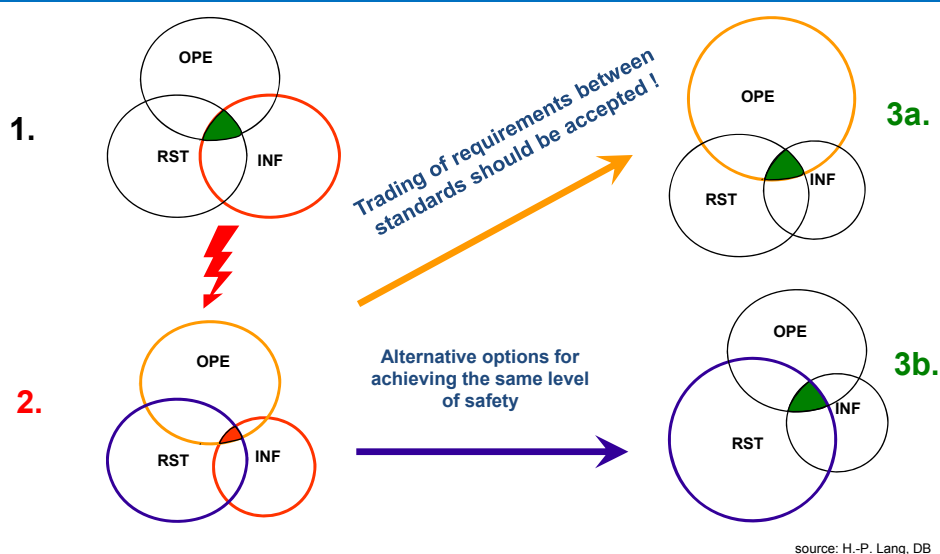
“In case a Member State introduces a higher level of **safety**, it should ensure that the **rule adopted** does **not create a barrier to interoperability** or result in **discrimination**.”



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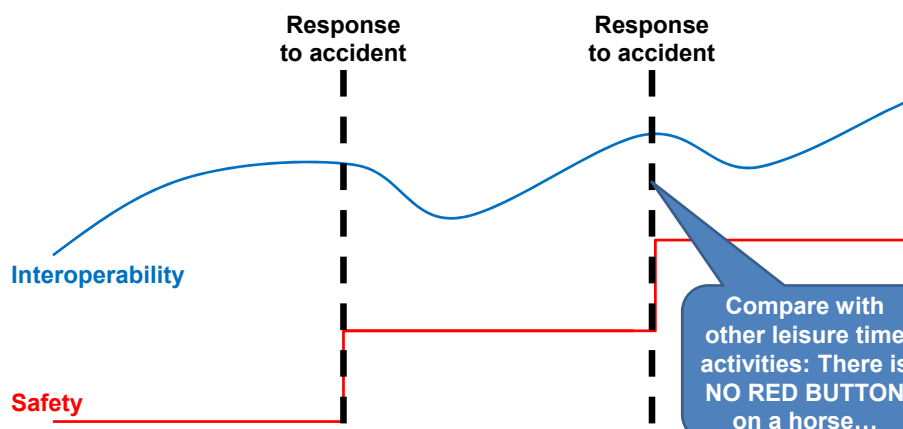


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Pressure on increasing the level of safety often resulted in reducing the level of Interoperability






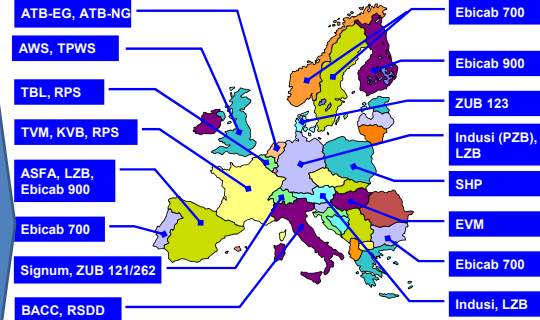
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And this is where we ended up with:


Trans Europ Express (TEE) network in the winter of 1974-75



Source: Wikipedia



- ATB-EG, ATB-NG
- AWS, TPWS
- TBL, RPS
- TVM, KVB, RPS
- ASFA, LZB, Ebicab 900
- Ebicab 700
- Signum, ZUB 121/262
- BACC, RSDD
- Ebicab 700
- Ebicab 900
- ZUB 123
- Indusi (PZB), LZB
- SHP
- EVM
- Ebicab 700
- Indusi, LZB



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 Europäische Föderation der Museums- und Touristikbahnen

And this is where we ended up with:



798: eisenbahnfotograf.de

VT 798: 18,9 t / 58 PAX → 326 kg/ PAX
 Magnetic track brake deceleration: app. 1,5 m/s²

VT 641: 48,7 t / 63 PAX → 773 kg/ PAX
 VT 631: ???



631: Locomotive-online.com



641: Wikipedia



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Overcoming interoperability barriers whilst increasing safety by technical innovation

| START | | Progress |
|--------------------------|--|--|
| Analogous train radio | | GSM-R |
| 17 class B systems (ATP) | | ETCS |
| Passive safety | | Higher deceleration and/ or headway monitoring |



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Regulation follows political and social objectives

30 % of road freight over 300 km should shift to other modes such as **rail** by **2030**, and more than **50 %** by **2050**

By 2050, complete a European high-speed rail network. **Triple** the length of the **existing high-speed rail network by 2030** and maintain a dense railway network in all Member States. By 2050 the majority of medium-distance passenger transport should go by rail.

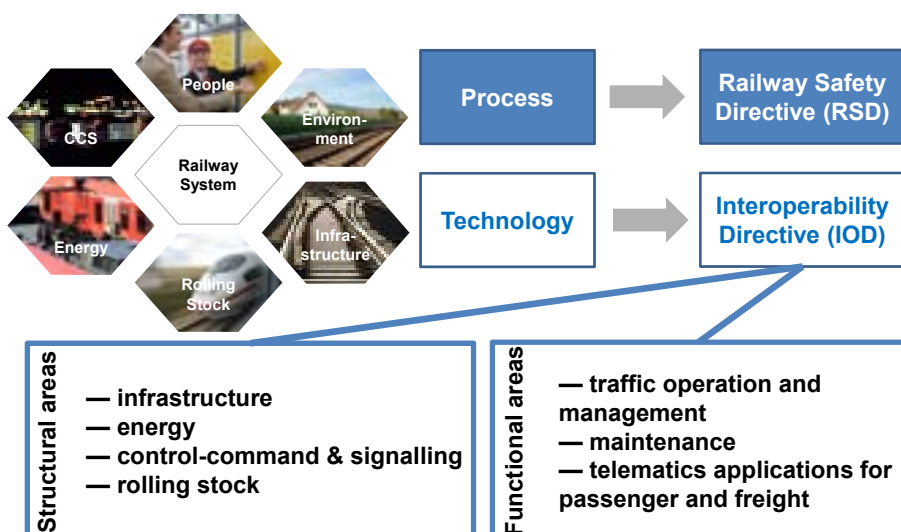
By **2050**, connect all **core network airports** to the **rail network**, preferably high-speed; ensure that all **core seaports** are sufficiently connected to the **rail freight**

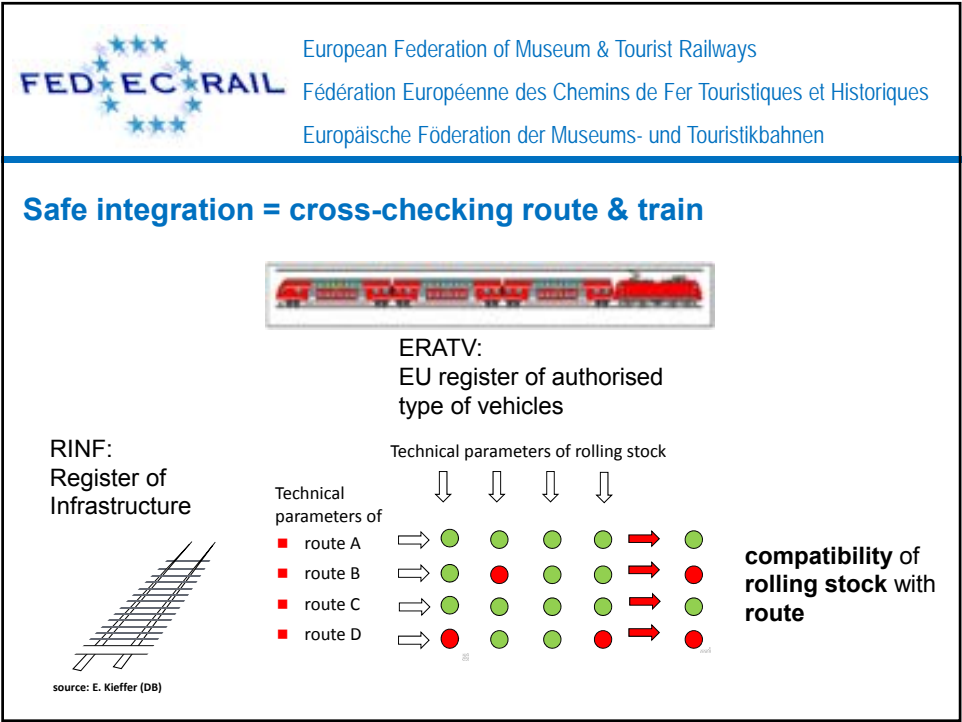
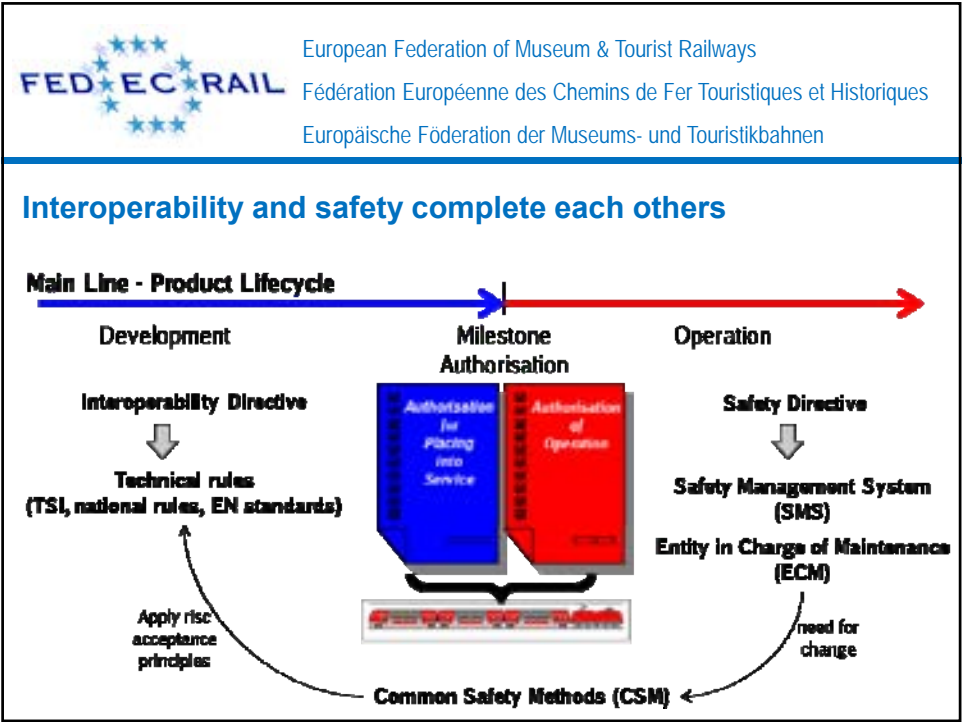



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Fédération Européenne des Chemins de Fer Touristiques et Historiques

Europäische Föderation der Museums- und Touristikbahnen







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TSI supports essential requirements of the IOD

Interoperability Directive (IOD, 2008/57/EU), Annex III: Essential Requirements

“1.1.4 The design of fixed installations and rolling stock and the choice of the materials used must be aimed at limiting the generation, propagation and effects of fire and smoke in the event of a fire.”

TSI LOCPAS, ch. 3.1: Elements of the rolling stock subsystem corresponding to the **essential requirements**

| Ref. Point | Element of the rolling stock sub-system | Safety | Reliability- Availability | Health | Environmental protection | Technical compatibility |
|-----------------|---|--------------|---------------------------|--------|--------------------------|-------------------------|
| 4.2.10.2 | Fire safety – Measures to prevent fire | 1.1.4 | | 1.3.2 | 1.4.2 | |



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| Ref. Point | Element of the rolling stock sub-system | Safety |
|-----------------|---|--------------|
| 4.2.10.2 | Fire safety – Measures to prevent fire | 1.1.4 |

Essential requirement

TSI clause 4.2.x (basic parameter)

standard

4.2.10.2 Measures to prevent fire: 4.2.10.2.1 Material requirements

The selection of materials and components shall take into account their fire behaviour properties, such as flammability, smoke opacity and toxicity. Materials used to construct the rolling stock unit shall comply with the requirements of the specification referenced in **Appendix J-1, index 58** for the 'Operation Category' as defined below: (...)

| TSI | | Normative document | |
|-----------|--|--------------------|------------------------|
| Index N° | Characteristics to be assessed | Point | Document N° |
| 58 | Measures to prevent fire – material requirements | 4.2.10.2.1 | EN 45545-2:2013 |
| | | | relevant cl. 5 |



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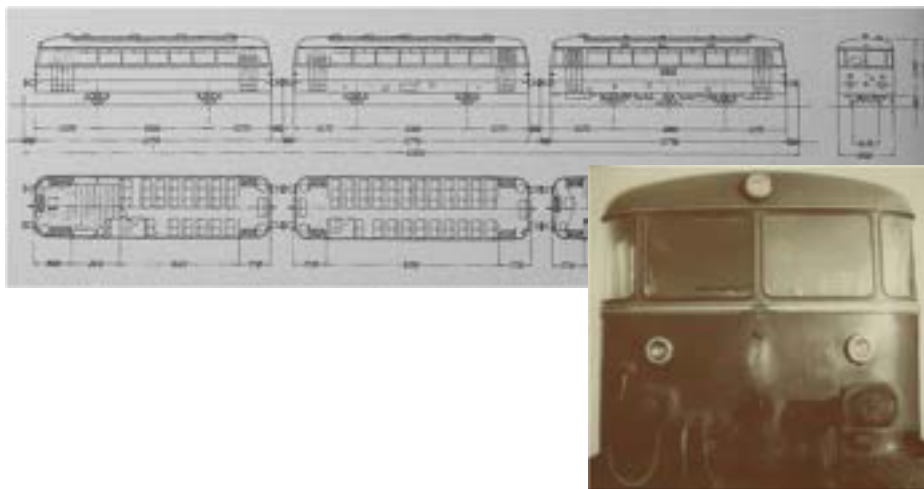


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Quick training on railbus technical design



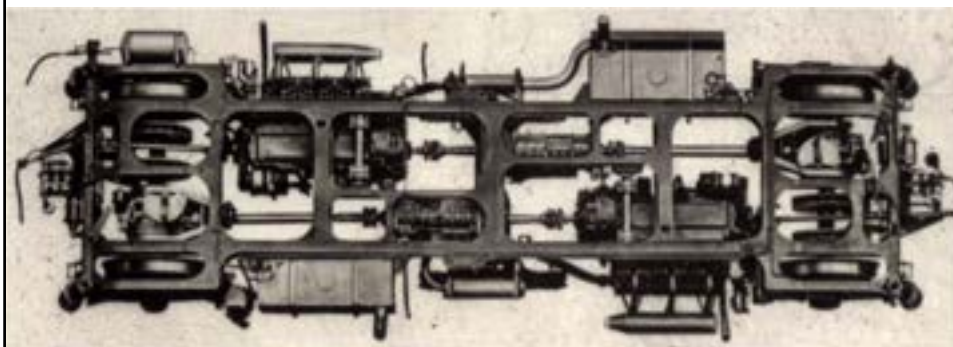


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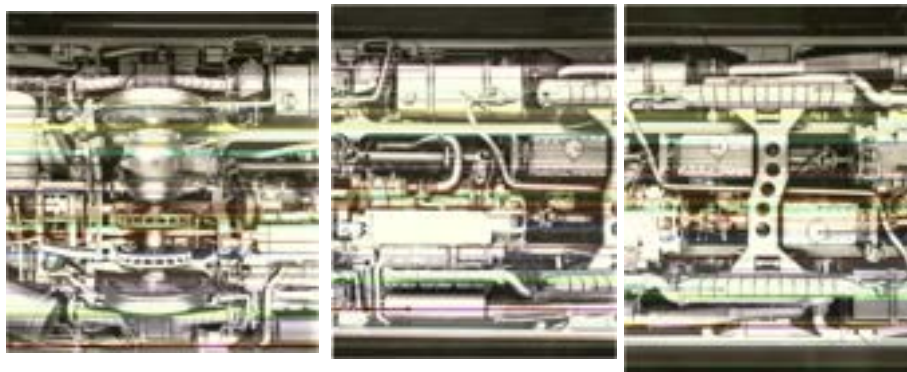


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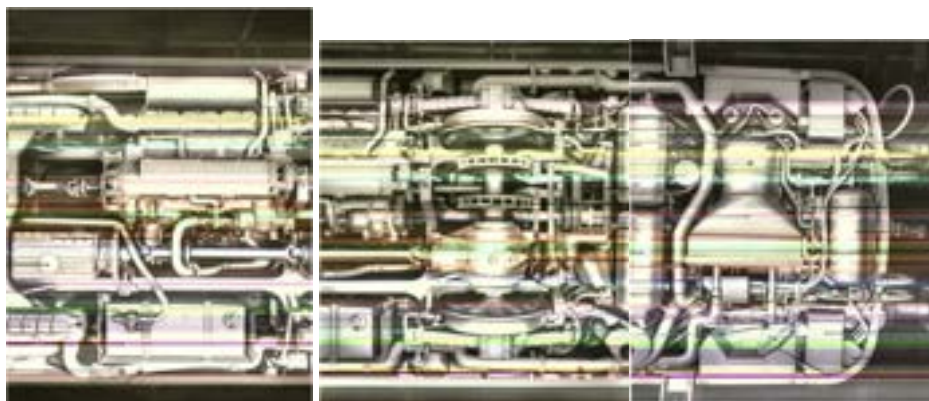


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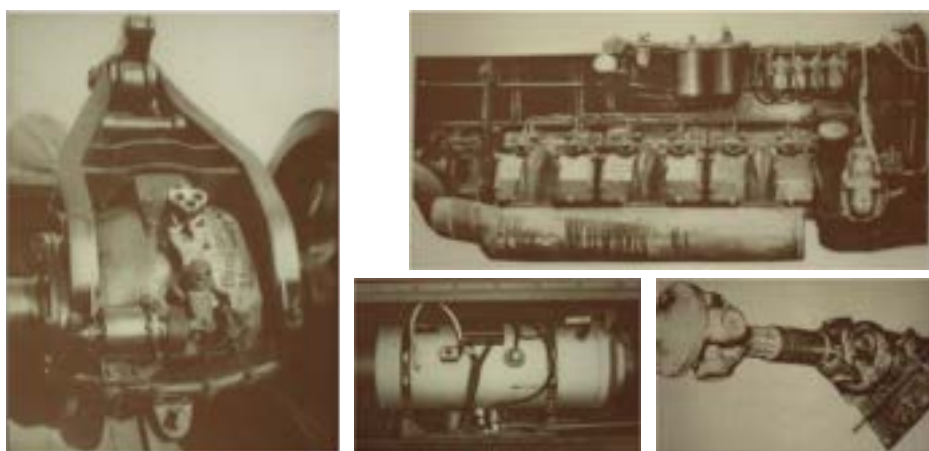


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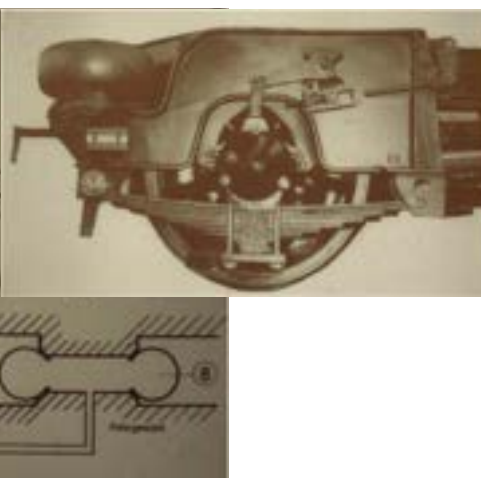
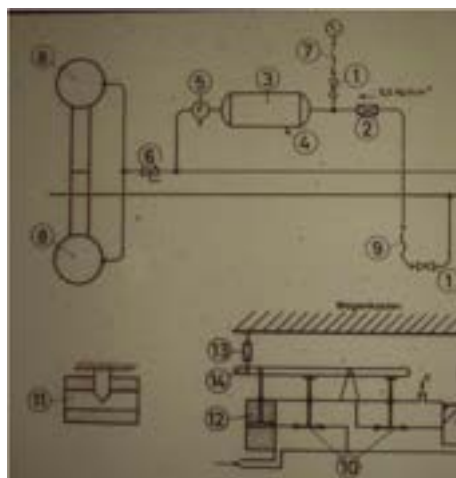


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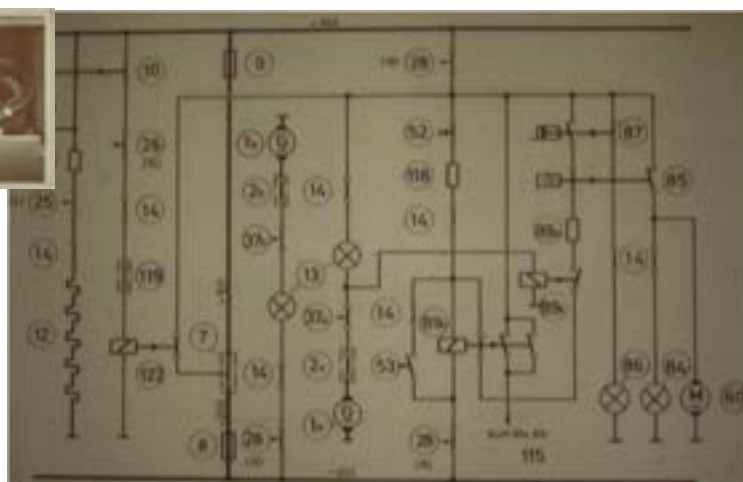


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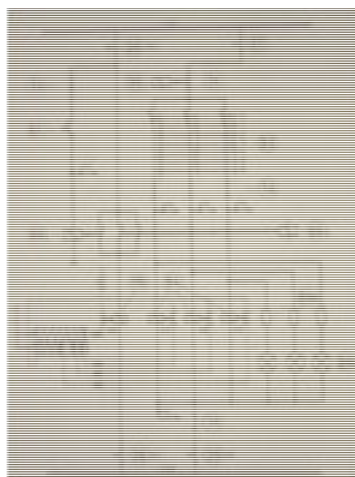
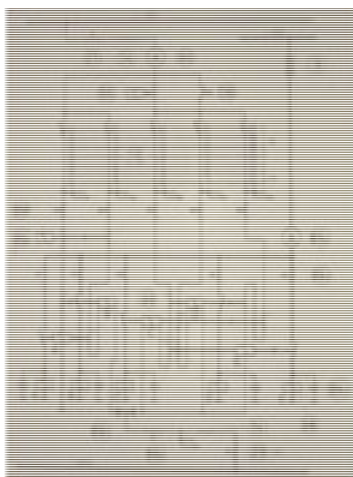


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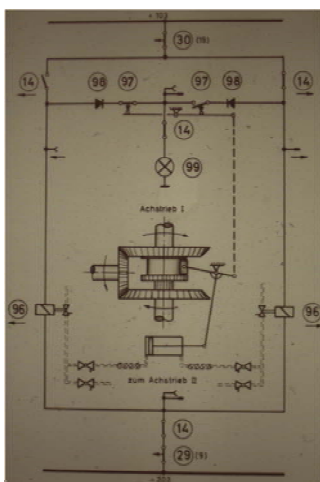


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Source: Wikipedia



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DB classic railbus areas of operation (beyond Germany)

- Luxembourg
- Austria
- Croatia/ Serbia
- Spain
- UK
- Turkey
- Lebanon
- Uruguay



Turkey



Regional railways



railroad24.de



UK



Belgium



Austria



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Overcoming interoperability barriers whilst increasing safety by technical innovation...

| START | | Progress |
|--------------------------|--|---|
| Analogous train radio | | GSM-R |
| 17 class B systems (ATP) | | ETCS |
| Passive safety | | Higher braking performance and/ or headway monitoring |

... needs pilots to implement innovation and to test it, with full support of passionate and experienced railway professionals.

Heritage railways have been - and are – members of the team of applicants of future railway technical innovations !



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Thank you for your kind attention





UPDATE APRIL 2016



COAL

THE LIFEBLOOD
OF
STEAM LOCOMOTIVES



COAL IS THE MOST EFFICIENT SUPPLIER OF ENERGY (excluding Nuclear)

- ❖ Better than Oil and Natural Gas.
- ❖ Coal is plentiful. *(For example the United States coal reserves, based on current usage, are 350 years.)*
- ❖ China and India also have vast reserves of coal.

Unfortunately, coal is considered to be the dirtiest of all fossil fuels and we are moving to the point where the world has started saying that:

“coal should remain in the ground.”



THE PARIS CONFERENCE ON GLOBAL WARMING

The Paris Conference on Global Warming attended by 195 countries in December 2015 concluded that it was essential that worldwide the enormous reserves of coal must be left in the ground. They concluded that average global temperatures should not rise more than 2c above pre-industrial levels.

The danger level is 5c which should not be exceeded at all costs

This year some of the conference committees added a later target of achieving 1.5c by 2030.



**The problems with fossil fuel use in China.
Similar problems are occurring in India.**





Many coal fired power stations are being closed in the UK because they lack the technology to meet the new cleaner fuel requirements.



WORLD USE OF COAL (2014)

Coal provides 30% of global primary energy needs and generates over 41% of the world's electricity. It is also used in the production of 70% of the world's steel.

Total Global Coal Production, including hard coal and lignite, totalled 8022.5 million tonnes in 2014. This shows an increase from 4677 million tonnes in 1990. The current largest user is China with 3,747 million tonnes.

Source: World Coal Association, London, 2016.

To put this in perspective, steam locomotives in the UK use something like 1.3 tonnes an hour!

THE UK COAL SITUATION TODAY

In the UK the last deep mine colliery closed in December 2015 and we will rely largely on imported coal for our remaining 3 coal fired power plants in 2017. These will also close by 2023 unless converted to using Biomass or other 'cleaner' fuels.

The UK still produces coal with nine drift mines and eight opencast sites. The largest company owning the latter (Hargreaves Ltd), issued a profit warning late last year announcing that production is to be reduced by 50%. However they also saw a long term future for coal production in Scotland. (It should be noted that the Hargreaves statement does not mention the future use of its sites in England and Wales.)

AN INDEPENDENT REMINDER OF THE WORLDWIDE SITUATION OF COAL

**World Coal supply should be
reduced by :
82.3%
From 8,222m/tonnes with 6007.5m/
tonnes left in the ground.**

Presumably;

Leaving 2214.5 m/tonnes as coal available.



THE POSSIBLE EFFECT ON HERITAGE & TOURIST RAILWAYS

Heritage and Tourist railways may find themselves needing to comply with carbon reduction targets in their use of coal. They may even be forced by law to convert locomotives to cleaner fuels - likely to be very expensive.

I suggest our policy should be to seek exemptions for all industrial historic transport which uses coal.



WHAT WE WOULD LIKE TO SEE HAPPEN

Exemptions for historic transport in future legislation (worldwide, if possible). We need good guidance; clearly, the best solution is to seek exemptions from our respective governments for all historic transport systems currently using coal.

It is the small amount used that can reinforce the arguments in favour of exemptions, or we may be required to use other fuels which might destroy their historic status.

We are also looking at using less coal through other systems during the lighting-up period. This could be achieved by portable hot water boilers. This may not be practicable for smaller railways but raising steam using wood for longer periods may save costs and reductions in coal use.



**A SIMPLE IMAGE SHOWING COAL USAGE IN
POWER STATIONS AND ON HERITAGE &
TOURIST RAILWAYS**

Left is a picture of a disused gasometer that were used extensively in the UK and many other countries for the storage of coal gas. On the right the amount of coal shown would serve a coal powered station for about 4 hours!



Disused gasometer overlooking the famous Oval cricket ground in London



**A SMALL SECTION OF THE GASOMETER
COMPARED WITH A COMPARABLE
SIZE STEAM LOCOMOTIVE**



THE COAL PROBLEM IN IRELAND.

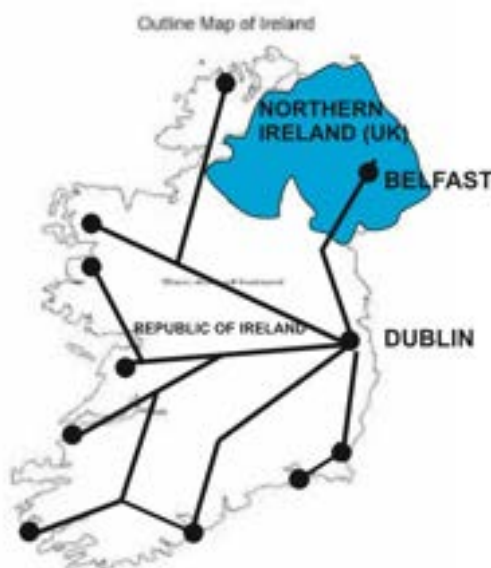
You may be aware that the Irish Government have produced legislation to rid the country of coal completely by 2018 - the first government worldwide to produce such legislation.

Agreement on the formation of a new Irish Government is still awaited as no one party achieved an overall majority. Accordingly all new legislation is on hold and it is possible that a new election may be held.

I suggest that Ireland could be our battleground.

The map on the right shows a rough description of Irish lines used by charter trains. Most of these charters start in Belfast which, of course is in the UK.

The Irish Government are rightly proud of their work in making the city of Dublin clean of coal and that the systems used should be extended throughout Ireland. This raises the question for the future of steam locomotives (and traction engines etc) operational in Ireland.





OTHER FOSSIL FUEL LOCOMOTIVES

We should also be aware that hundreds of diesel locomotives have been preserved and many are part of our railway history. It is possible that new engines or modifications for using cleaner diesel fuel may be required. Such measures could be costly.

The United States has announced that diesel locomotives must use cleaner fuels which may involve new engines being fitted.

However we understand this will not apply to preserved locomotives. This is a very significant statement.



IN MAKING OUR CASE

We need accurate figures of coal usage worldwide. Clearly a role for Wattrain and such organisations as Fedecrail. These figures when compared with the amount of coal used for power generation may show that we can make a strong case for exemptions for historical transport.

What we do not need is illustrated on the publicity slide shown next.



**PICTURES
LIKE THIS**



The return to steam of the world famous locomotive "Flying Scotsman" received much publicity in the press and on television. All scenes showed clear light grey smoke which is what we should achieve with all steam operations.



There are probably millions of people who live alongside railway lines where occasional steam trains pass by. They are potential critics of heritage and tourist railways when they hang out their washing! Dirty smoke emissions are not a good advertisement for when and if we apply to continue with the use of coal when everyone else may be banned!



THE PRESERVATION OF OUR INDUSTRIAL HISTORIC TRANSPORT- Railways, ships, traction engines, steam rollers etc.

**If legislation results in a universal ban on burning coal,
what are likely alternative fuel sources?**

**Can these other sources be utilised without destroying
the preservation of our historic locomotives and other
historic transport?**

**Or, in the worst case scenario, will all coal burning
locomotives, ships etc be confined to static museum
status?**

A REMINDER OF THE WORLDWIDE COAL SITUATION

**World Coal supply should be
reduced by :
82.3%
From 8,222m/tonnes with 6007.5m/
tonnes left in the ground.**

Presumably;

Leaving 2214.5 m/tonnes as coal available.

Note: This is not an official document but one produced on the internet

This is not going to happen! WHY?

Japan, China and India have announced that they are together to build about 1,300 new coal-fired power stations!

Japan needs new coal fired power stations following the dreadful accident at Fukushima.

Officials in India and China have stated that they have many areas in their countries where people have no electricity and they have a duty to provide electric power where none currently exists.

In contrast to the announcement above, China has now stated that it will close over 4,500 mines because of emission dangers.

LATEST NEWS

Last Wednesday the BBC News headlined the subject of coal with a statement that US company Peabody Energy (the largest coal company in the world), filed for *Chapter 11 bankruptcy* as it was unable to service its debt of \$10.1 billion. It admitted that it failed to take full account of new energy from the development of fracking. The media stated *"There seems little sympathy for 'old' coal mining"*.

Peabody later announced that it expected its mines to continue to operate as usual and said its Australian assets were excluded from the bankruptcy.



THESE ARE SOME OF THE CHALLENGES IN RESPECT OF THE FUTURE SUPPLY OF COAL.

WATTRAIN (THE WORLD ASSOCIATION OF TRAMS & TRAINS) ARE WORKING INTERNATIONALLY TOWARDS MAKING A GOOD CASE FOR THE CONTINUED USE OF SUITABLE COAL FOR HISTORIC TRANSPORT.

THANK YOU FOR YOUR ATTENTION.