Heritage Railways in Europe

A state of affairs by Heimo Echensperger

About the Speaker

- 1985 co-founder of the heritage railway DBK Historische Bahn e.V. operation in the area of Stuttgart, Germany, till today (www.dbkev.de)
  - Chairman 1985-1990, 2004-2008 and still board member
- 1993 co-founder of the Verband Deutscher Museums- und Touristikbahnen (VDMT), the German umbrella organisation for heritage railways (www.vdmt.de)
  - Chairman 1993-2011
- 1994 co-founder of the European Federation of Museum- and Tourist Railways (FEDECRAIL), the European umbrella organisation to represent the heritage railways towards the European Union (www.fedecrail.org)
  - Vice-President 1994-2021 and Treasurer 2013-2021
- 1985-2005 volunteer fireman on steam engines (46.000 km, 14 different engines of 11 types)
- Professional Career:
  - Electronics Engineer, MBA Telecommunication Business from University College London (UCL)
  - IBM, British Telecom and Deutsche Telekom, initial introduction of WiFi in the high speed trains (ICE) of Deutsche Bahn, WiFi on aircrafts

Remarks

- This presentation will focus on the aspects of operation of artefacts of the railway heritage
- Museological aspects shall be – and mostly are – part of it.
  - FEDECRAIL has developed the Riga Charter about conservation, restoration, maintenance and repair and use of historic railway equipment, which is being operated.
- The focus will be on steam, because this is the most ancient mode of traction today, with the biggest issue regarding know how to be operated and maintained.
- Nevertheless steam shall stand as a pars pro toto (as part standing for the whole) for the operation of railway heritage.

How it began and where we got

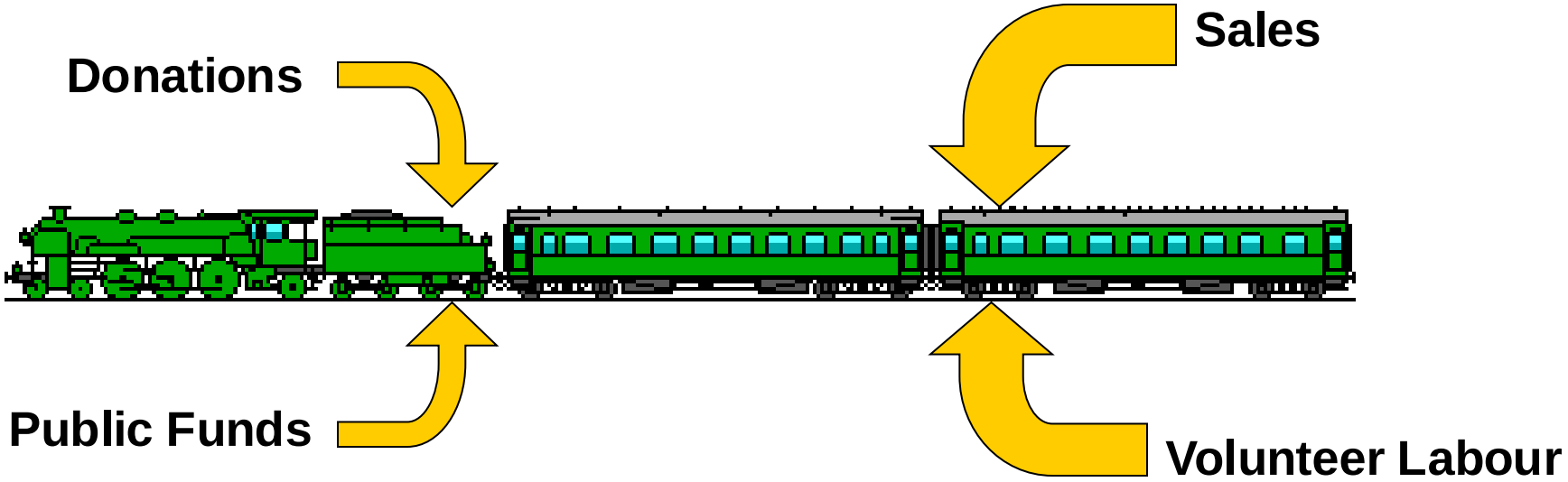
- First private/volunteer heritage railway emerged in **1951** with Tallyllyn Railway in Wales, UK demonstrating a new paradigm: **Railway operation by a private, non-commercial initiative!**
- Following this paradigm, various kind of rail heritage activities emerged leading to railways and railway vehicles operated in private ownership and responsibility.
- Today the sector comprises hundreds (> 700) of heritage railways and/or railway museums throughout Europe
  - all kind of gauges – including relayed or regauged track routes
  - all modes of traction
  - all size of equipment – from field railway to mainline express
  - all kind of vehicles – including re- and new-build steam engines (e.g. Tornado)
  - with focus on preserving and demonstrating the railway history as an open air museum
  - with focus on tourism
  - for the same customer segments as in the past (4th class to luxurious)
  - special segments for enthusiasts

The Market

- 60 % families
  - Entertaining the kids (4-14 of age)
  - Familiy tickets (2 adult, 2-3 kids)
  - Kids for free (2/all)
  - Journey time one way ~ 1 h
- 35 % individuals
  - Good day out
  - Premium products, e.g. dinner train etc.
- 5 % railway enthusiasts
  - High willingness to pay premium prices for tailored offers
    - Coach behind the engine
    - Specific train sets/routes
    - …

Economic Basis – Train Operation

- Heritage Railways train operation is mostly financially self sustained and rely to a large extend on volunteer labour
  - Volunteer culture is more prevalent in the north and west of Europe than in the south and east.
  - A nucleus of paid employees has emerged over time. At most in the UK.
  - Public funds are available from tourism, regional development and monument support.
  - Most societies/associations are charitable trusts and can receive tax deductible donations.

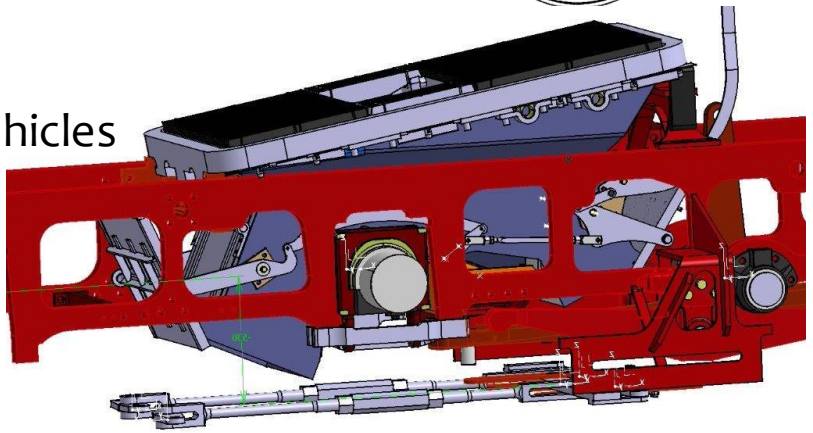


Economic Basis – Permanent Way

- Permanent Way maintenance is costly and/or labour intensive, there fore heritage railways use track
  - owned be the heritage railway (common for narrow gauge)
  - owned by the local authorities (community, county, state …)
    - If transfered from the state railway often together with a fund to compensate for deferred maintenance
  - of the public (incumbent) rail network
- Maintenance is often done with a split of volunteer work and contracting
  - volunteers do the day to day maintenance of the track
  - replacement of larger sections of the track is contracted to professional companies
- Financing is either from the operational income or from milage charges to train operators
  - Sympathy support from the permanten way market – reduced prices, donation

Technical Basis

- The incumbent operators
  - have lost the competence to maintain and operate historic rail vehicles
  - mostly present their heritage in static museums
- Heritage railways succeed
  - due to lean organisation
  - focus
  - competence
  - application of state of the art technology
    - Laser measurement to establish the state of wear
    - CAD to construct spare parts according to the current state
      - Print moulds for castings
      - Data set for computer driven manufacturing machines
      - Use of standard manufacturing processes
    - Significant cost reduction for spare parts



Organisational Developments

- Association/Society – assembles the volunteers and owns mostly the artefacts
  - Limited Cooperation as railway company
    - Operates the vehicles
    - Maintains the tracks
  - Foundation/Trust – upcoming, since not to be dissolved
    - Owns land and buildings
    - Artefacts (vehicles and other artefacts of the collection

About Volunteers

- The initial generation of volunteers was motivated by preserving a vanishing past they have experienced themself.
- The challenge was therefore the migration of remembrance to a new generation who never experienced the railway of the past.
- In many cases this has succeeded and a new generation has found its interest in preserving and operating the railway heritage.
  - Key item for success are role models (young people in charge) in the organisation
- There is now a new generation interpreting railway history, based on the foundation the first generation has laid.

Rail Regulatory Environment …

- From 1900 onwards the state railway system dominates in Europe
- In some countries railways could constitute as private companies
  - Secondary lines and/or industrial railways
  - Narrow gauge railways
  - Railway or railway vehicles operated by an association of private individuals was not part of the concept
- In **1994** the European Union opened up the railway sector
  - Commercial and organisational separation of infrastructure and train operation
    - Even integrated companies consist of a infrastructure company and a train operating company (TOC)
  - Open and non-discriminatory access to the network for TOC
    - The mode of traction is not a criteria
  - This provided new opportunities also to heritage railways who could become a TOC

Rail Regulatory Environment

- Key elements of the EU regulation
  - Certified CSM (Common Safety Management)
  - Certified ECM (Entity in charge of maintenance)
- The member states can exempt heritage railways from the EU regulation
  - done to a varying extend, also depending on the lobbying capabilities of the sector
  - if exempted the previous (historic) regulation remains applicable
  - narrow gauge, urban and isolated railways are not subject of the regulation
- Nevertheless mainline operation requires trained staff and current safety equipment installed in the locomotives
- The sector grows with the regulatory demands
  - measures perceive as impractical some year ago are common practice for volunteer railways, too

State of Mainline Operation in Selected European Countries

Open Heritage Railways can operate as TOC	**Semi-Open** Heritage Railways need a TOC to operate	**Closed** No incumbent independent operation
- Austria - Czech Republic - Finland - Germany - Netherlands - Sweden - Switzerland	- Bulgaria - Denmark - Hungary - Luxemburg - Polen - (United Kingdom)	- Belgium - France - Greece - Italy - Romania In principle this is not legal but would need to be challanged in court. Heritage railways are confiend to their own infrastructure.

No rail operation: Cyprus, Malta.

Not an Unusual Sight in European Countries

Engine 01 180 leaving Munich main station while an ICE arrives in the background.

Engine 70000 ‘Bahamas’ passing Grosvenor shed at London’s Victoria station

Engine 052 988 encounters a tilting regional train at Hausen im Tal, Germany

A Possible Sight Today

Competitive TOC with regular regional train service.

A Possible Sight Today

Heritage railway with commecial branch, uses steam traction for special events.
(34 empty trucks for sugar beets)

Business with Enthusiasts (Example)

- Seasonal freight service with particular heavy trains (up to 2.000 tons) is used to generate an event for enthusiasts
- For three days freight trains to be operated anyhow are hauled by steam engines
- The schedules allows the customers to catch the train multiple times
- The event is sold for about 500 € per person for three days
- There is a global customer segment who is prepared to pay premium prices for “authentic” trains in an “authentic” environment.
  - as an example have a look here https://www.classictrains.de/

Steam trains as daily public transport service

1. Zittau – Oybin/Jonsdorf, DE
2. Freital – Hainsberg, DE
3. Radebeul Ost – Radeberg, DE
4. Cranzahl – Oberwiesenfeld (Fichtelbergbahn), DE
5. Wernigerode – Nordhausen/Broken (Harzer Schmalspurbahn), DE
6. Bad Doberan – Kühlungsborn, DE
7. Putbus – Göhren (Rügensche Bäderbahn), DE
8. Fort William – Mallaig (via Glenfinnan Viaduct), UK
9. Romney Hythe & Dymchurch, UK
10. Wolstyn – Zbasynek/Poznan, PL
11. …

Summary

- Heritage rail operation in Europe is based to the largest extend on private initiative and volunteer work. Nevertheless thousands of jobs are provide.
- There is a great deal of economic independents, but public funds are acquired where possible. They come mostly from tourism and regional development.
- The competence to maintain and operate historic rolling stock has nearly entirely moved to the sector.
- The sector is stable and slowly growing with occasional market entries and losses.

Thank You

Questions