

## Title (en)

System and method for failure telemaintenance and expert diagnosis

## Title (de)

System und Verfahren für die Fernwartung und Expertendiagnose von Fehlern

## Title (fr)

Système et méthode pour télémaintenance et diagnostic expert de pannes

## Publication

**EP 2251835 A1 20101117 (EN)**

## Application

**EP 09398015 A 20091102**

## Priority

PT 10424608 A 20081031

## Abstract (en)

The present invention is related to a system and method for the telemaintenance of vehicles, namely railway rolling stock, RRS (1), associated to an Intelligent Failure Diagnosis System, IFDS (2), applicable to the universe of the conventional and high-speed train, light rail and potentially comprising all the transport systems. The invention comprises the railway telemaintenance with a maintenance policy centred in the reliability, Reliability Centred Maintenance (RCM), appealing to the technology of maintenance based in the condition, Condition Based Maintenance (CBM), in order to improve and intensify the treatment of the RCM tasks, named by tasks on inspection/condition, on condition tasks, giving rise to a new support tool to the maintenance of railway rolling stock. With this new approach and directly influenced by the efficiency of IFDS (2) it's obtained an optimization of the Reliability, Availability, Maintenance and Security settings of the RRS (1) with the optimization of the life potential of the equipments.

## IPC 8 full level

**G07C 5/00** (2006.01); **G06Q 10/00** (2006.01); **G07C 5/08** (2006.01)

## CPC (source: EP)

**G07C 5/006** (2013.01); **G07C 5/008** (2013.01); **G07C 5/0808** (2013.01)

## Citation (search report)

- [YP] WO 2009085476 A1 20090709 - SIKORSKY AIRCRAFT CORP [US], et al
- [Y] US 2007086482 A1 20070419 - PRUZAN BRIAN M [US], et al
- [Y] US 2007216771 A1 20070920 - KUMAR AJITH K [US]
- [A] CARRETERO ET AL: "Applying RCM in large scale systems: a case study with railway networks", RELIABILITY ENGINEERING AND SYSTEM SAFETY, VOLUME 82, ISSUE 3, December 2003 (2003-12-01), pages 257 - 273, XP002575438, Retrieved from the Internet <URL:http://www.sciencedirect.com/> [retrieved on 20100326], DOI: 10.1016/S0951-8320(03)00167-4
- [A] D'ADDIO G F ET AL: "Optimized reliability centered maintenance of vehicles electrical drives for high speed railway applications", INDUSTRIAL ELECTRONICS, 1997. ISIE '97., PROCEEDINGS OF THE IEEE INTERNATIONAL SYMPOSIUM ON GUIMARAES, PORTUGAL 7-11 JULY 1997, NEW YORK, NY, USA, IEEE, US, vol. 2, 7 July 1997 (1997-07-07), pages 555 - 560, XP010265085, ISBN: 978-0-7803-3936-1
- [AP] SAE G-11 RCM SUBCOMMITTEE OF THE SAE G-11 SUPPORTABILITY COMMITTEE: "SAE JA1011, Surface vehicle and aerospace standard : Evaluation criteria for reliability-centered maintenance (RCM) processes", INTERNET CITATION, August 2009 (2009-08-01), XP008121039
- [A] SAE G-11 RCM SUBCOMMITTEE OF THE SAE G-11 SUPPORTABILITY COMMITTEE: "SAE JA1012, Surface vehicle and aerospace recommended practice : A guide to reliability-centered maintenance (RCM) standard", INTERNET CITATION, January 2002 (2002-01-01), XP008121049

## Citation (examination)

- WO 2007146424 A2 20071221 - FORCE INC [US], et al
- US 2002072808 A1 20020613 - LI DAVID D [US]

## Cited by

CN109767014A; ES2398998R1; CN113114748A; ES2400643R1; CN112181848A; CN113254929A; CN112623267A; CN113204895A; CN118264538A; US10657450B2; EP3194229B1

## Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

## Designated extension state (EPC)

AL BA RS

## DOCDB simple family (publication)

**EP 2251835 A1 20101117**; PT 104246 A 20100430; PT 104246 B 20101228

## DOCDB simple family (application)

**EP 09398015 A 20091102**; PT 10424608 A 20081031