

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4528496

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	CHANGE OF ADDRESS
CONVEYING PARTY DATA	
Name	Execution Date
ALSTOM TRANSPORT TECHNOLOGIES	09/30/2015
RECEIVING PARTY DATA	
Name:	ALSTOM TRANSPORT TECHNOLOGIES
Street Address:	48 RUE ALBERT DHALENNE
City:	SAINT-OUEN
State/Country:	FRANCE
Postal Code:	93400
PROPERTY NUMBERS Total: 199	
Property Type	Number
Patent Number:	8013469
Patent Number:	8712611
Patent Number:	8646730
Patent Number:	8786426
Patent Number:	6523654
Patent Number:	6782833
Patent Number:	5715757
Patent Number:	5647793
Patent Number:	5668711
Patent Number:	5726870
Patent Number:	5706188
Patent Number:	5730395
Patent Number:	5644989
Patent Number:	5885089
Patent Number:	5898582
Patent Number:	5883431
Patent Number:	6239999
Patent Number:	5890434
Patent Number:	5921185
Patent Number:	5862894

PATENT

Property Type	Number
Patent Number:	5989037
Patent Number:	6067711
Patent Number:	5984773
Patent Number:	5886889
Patent Number:	5940285
Patent Number:	5970883
Patent Number:	6158356
Patent Number:	6236954
Patent Number:	6067237
Patent Number:	6273497
Patent Number:	6031449
Patent Number:	6039349
Patent Number:	6234702
Patent Number:	6199875
Patent Number:	6114829
Patent Number:	6176547
Patent Number:	6236566
Patent Number:	6249448
Patent Number:	6274843
Patent Number:	7213521
Patent Number:	6305297
Patent Number:	6371265
Patent Number:	6213027
Patent Number:	6220177
Patent Number:	6294886
Patent Number:	6338300
Patent Number:	6344686
Patent Number:	6336409
Patent Number:	6297079
Patent Number:	6411051
Patent Number:	6274451
Patent Number:	6442034
Patent Number:	6278179
Patent Number:	7016201
Patent Number:	6378444
Patent Number:	6313603
Patent Number:	6382378
Patent Number:	6363862

Property Type	Number
Patent Number:	6393998
Patent Number:	6570276
Patent Number:	6766228
Patent Number:	6443510
Patent Number:	6454326
Patent Number:	6454345
Patent Number:	6457420
Patent Number:	6505406
Patent Number:	6484074
Patent Number:	6589859
Patent Number:	6497183
Patent Number:	6794838
Patent Number:	6442023
Patent Number:	6498969
Patent Number:	6693562
Patent Number:	6557476
Patent Number:	6864598
Patent Number:	6625024
Patent Number:	6561105
Patent Number:	6605917
Patent Number:	6856111
Patent Number:	6586783
Patent Number:	6836125
Patent Number:	6738253
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Patent Number:	6786159
Patent Number:	6561893
Patent Number:	6960278
Patent Number:	6732418
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Patent Number:	6739175
Patent Number:	7170199
Patent Number:	6781854
Patent Number:	6913717
Patent Number:	6752322
Patent Number:	7102901
Patent Number:	7397149
Patent Number:	7271507

Property Type	Number
Patent Number:	6941874
Patent Number:	6895358
Patent Number:	7096114
Patent Number:	6850863
Patent Number:	7089093
Patent Number:	7328660
Patent Number:	7042725
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Patent Number:	7095197
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Patent Number:	7436142
Patent Number:	7474066
Patent Number:	7428778
Patent Number:	8224511
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Patent Number:	7631113
Patent Number:	8166888
Patent Number:	8371234
Patent Number:	7900879
Patent Number:	7800355
Patent Number:	8151955
Patent Number:	7814841
Patent Number:	8136455
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Patent Number:	7800330
Patent Number:	7908976
Patent Number:	7982418
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Property Type	Number
Patent Number:	8148925
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Patent Number:	8316290
Patent Number:	8381659
Patent Number:	8365675
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Patent Number:	8687612
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Patent Number:	8319587
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Patent Number:	7812699
Patent Number:	9172432
Patent Number:	9266544
Patent Number:	8800453
Patent Number:	8056482
Patent Number:	8171861
Patent Number:	8908902
Patent Number:	8742925
Patent Number:	8820685
Patent Number:	8907255
Patent Number:	8596202
Patent Number:	8519661
Patent Number:	8550009
Patent Number:	8781803
Patent Number:	8469166
Patent Number:	9287223
Patent Number:	9030163
Application Number:	13952064
Patent Number:	9087217
Patent Number:	9221479
Application Number:	13875021
Application Number:	14024519
Application Number:	13781067

Property Type	Number
Patent Number:	9048659
Patent Number:	9096240
Patent Number:	9209616
Patent Number:	9038794
Application Number:	14138398
Application Number:	14212406
Patent Number:	9332500
Application Number:	14378862
Application Number:	14490179
Application Number:	14490304
Application Number:	14386233
Application Number:	14559718
Application Number:	14563855
Application Number:	14567884
Application Number:	14592030
Application Number:	14616938
Application Number:	14667838
Application Number:	14662693
Application Number:	14667566
Application Number:	14849988
Application Number:	14840794
Application Number:	14877667
Application Number:	14934047
Application Number:	14958745
Application Number:	14958763
Application Number:	14958718
Application Number:	15631605

CORRESPONDENCE DATA

Fax Number: (703)685-0573

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 7035212297

Email: NLeta@young-thompson.com

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Address Line 1: 209 MADISON ST., SUITE 500

Address Line 4: ALEXANDRIA, VIRGINIA 22314

ATTORNEY DOCKET NUMBER:	0512-10045-MISC
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NAME OF SUBMITTER:	ERIC JENSEN
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SIGNATURE:	/ERIC JENSEN/
DATE SIGNED:	07/31/2017
Total Attachments: 30 source=ADDRESS_CHANGE_ASSMT#page1.tif source=ADDRESS_CHANGE_ASSMT#page2.tif source=ADDRESS_CHANGE_ASSMT#page3.tif source=ADDRESS_CHANGE_ASSMT#page4.tif source=ADDRESS_CHANGE_ASSMT#page5.tif source=ADDRESS_CHANGE_ASSMT#page6.tif source=ADDRESS_CHANGE_ASSMT#page7.tif source=ADDRESS_CHANGE_ASSMT#page8.tif source=ADDRESS_CHANGE_ASSMT#page9.tif source=ADDRESS_CHANGE_ASSMT#page10.tif source=ADDRESS_CHANGE_ASSMT#page11.tif source=ADDRESS_CHANGE_ASSMT#page12.tif source=ADDRESS_CHANGE_ASSMT#page13.tif source=ADDRESS_CHANGE_ASSMT#page14.tif source=ADDRESS_CHANGE_ASSMT#page15.tif source=ADDRESS_CHANGE_ASSMT#page16.tif source=ADDRESS_CHANGE_ASSMT#page17.tif source=ADDRESS_CHANGE_ASSMT#page18.tif source=ADDRESS_CHANGE_ASSMT#page19.tif source=ADDRESS_CHANGE_ASSMT#page20.tif source=ADDRESS_CHANGE_ASSMT#page21.tif source=ADDRESS_CHANGE_ASSMT#page22.tif source=ADDRESS_CHANGE_ASSMT#page23.tif source=ADDRESS_CHANGE_ASSMT#page24.tif source=ADDRESS_CHANGE_ASSMT#page25.tif source=ADDRESS_CHANGE_ASSMT#page26.tif source=ADDRESS_CHANGE_ASSMT#page27.tif source=ADDRESS_CHANGE_ASSMT#page28.tif source=ADDRESS_CHANGE_ASSMT#page29.tif source=ADDRESS_CHANGE_ASSMT#page30.tif	

[Translated from French]

ALSTOM Transport Technologies

a "*société par actions simplifiée*" (a type of company limited by shares, with reduced reporting requirements) with capital of € 673,015,000

Head office: 3 avenue André Malraux
92 300 Levallois-Perret

Registration: RCS Nanterre 752 364 778

**MINUTES OF THE DECISIONS BY THE
CHAIRMAN DATED 30 SEPTEMBER 2015**

CERTIFIED TRUE COPY OF THE ORIGINAL LILLE, 06

MARCH 2017

**FOR THE CHIEF EXECUTIVE OFFICER OF INPI
DIRECTOR, DATA DEPARTMENT**

On Wednesday, 30 September, 2015,
At 9.00 a.m.,

At the registered office at 3, avenue André
Malraux à Levallois-Perret - 92300, Pole
Prestations de Recherches Documentaires et
Registres (Documentary Research Services
and Registers Unit)

[signature]

F. PLANQ

DPI/Data Department

[round seal: "*Institut National de la Propriété
Industrielle*" (national intellectual property institute)]

THE UNDERSIGNED:

Mr Pierrick **Le Goff**, acting as Chairman of the company **ALSTOM Transport Technologies**, a "*société par actions simplifiée*" (a type of company limited by shares, with reduced reporting requirements) with capital of € 673,015,000, whose registered office is at 3, avenue André Malraux - 92300 Levallois-Perret, recorded on the Nanterre Trade and Companies Register ("*RCS*") with number 752 364 778,

Took the following decision pertaining to:

- Proposal to transfer the registered office

Proposal to transfer the registered office

In connection with the restructuring of the Groupe Alstom, it is necessary to transfer the registered office of the Company to 48 rue Albert Dhalenne, 93400 Saint-Ouen, France, effective as of 5 October 2015.

By virtue of Article 4 of the articles of association, the registered office may be transferred to any other place by simple decision of the Chairman.

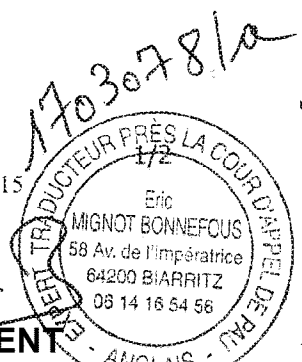
Therefore, Article 4 of the articles will now be worded as follows:

"Article 4 - Registered Office

The Company's registered office is 48 rue Albert Dhalenne, 93400 Saint-Ouen.

It may be transferred to any other place by simple decision of the Chairman."

Registry of the Bobigny Commercial Court ("*Tribunal de Commerce*"): filing No. 25529 dated 13/11/2015



REEL: 043382 FRAME: 0297

The Chairman possesses all authorities to perform this transfer and to carry out all administrative measures regarding filing, publishing and others that will be required.

Since the agenda had been thoroughly dealt with, the meeting was adjourned at 9.30 a.m.
From all the foregoing, the present minutes were made and signed by the Chairman, after being read.

[signature]

The Chairman



[round seal: "Institut National de la Propriété Industrielle" (national intellectual property institute)]

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ALSTOM Transport Technologies

Société par actions simplifiée au capital de 673 015 000 euros

Siège social : 3 avenue André Malraux

92 300 Levallois-Perret

RCS Nanterre 752 364 778

PROCES VERBAL DES DECISIONS DU PRESIDENT DU 30 SEPTEMBRE 2015

L'an deux mille quinze,

Le mercredi 30 septembre,

A 9 heures,

Au siège social 3, avenue André Malraux à Levallois-Perret - 92300,

LE SOUSSIGNE :

Monsieur Pierrick LE GOFF agissant en qualité de Président de la société ALSTOM Transport Technologies, Société par actions simplifiée au capital de 673 015 000 €, dont le siège social est 3, avenue André Malraux - 92300 Levallois-Perret, immatriculée au Registre du Commerce et des Sociétés de Nanterre, sous le numéro 752 364 778,

A pris la décision suivante portant sur :

- Proposition de transfert du siège social

Proposition de transfert du siège social

Dans le cadre de la restructuration du Groupe Alstom, il s'avère nécessaire de transférer le siège social de la Société au 48 rue Albert Dhalenne, 93400 Saint-Ouen, France, et ce, à compter du 5 octobre 2015.

En vertu de l'article 4 des statuts, le siège social peut être transféré en tout autre endroit sur simple décision du Président.

En conséquence, l'article 4 des statuts sera désormais libellé comme suit :

« Article 4 - Siège social

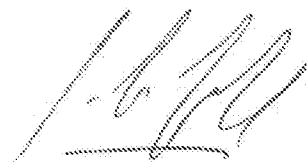
Le siège de la Société est à Saint-Ouen, 93400, 48 rue Albert Dhalenne.

Il peut être transféré en tout endroit par simple décision du Président. »

Le Président est investi de tous pouvoirs aux fins de réaliser ce transfert et d'effectuer toutes formalités de dépôt, de publicité et autres qu'il appartiendra.

L'ordre du jour étant épuisé, la séance est levée à 9 heures 30.

De tout ce que dessus, il a été dressé le présent procès-verbal qui, après lecture, a été signé par le Président.



Le Président

ALSTOM TRANSPORT TECHNOLOGIES

LISTE DES PRECEDENTS SIEGES SOCIAUX (R. 123-110 C. commerce)

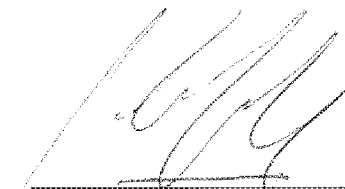
Siège social	Greffé du tribunal de commerce de	Début	Fin
3 avenue André Malraux 92300 Levallois-Perret	Nanterre	25/06/2012	05/10/2015

Au capital de : 673 015 000 euros

Siège social : 48 rue Albert Dhalenne 93400 Saint-Ouen

RCS Nanterre n° 752 364 778

Fait à Paris, le 05 octobre 2015,



Pierrick LE GOFF, en qualité de
Président de la société

Case Code	PATENT OFFICE	Short title PAF	Priority Date	Filing Date	Filing Number	Publication Date	Publication Number	Grant Date	Grant Number	Expiration Date	Recorded owner(s)
20143296	UNITED STATES AMERICA	Concentrated variable frequency HVAC supply.	12/15/2014	12/10/2015	11810364			9/6/2011	8013469		ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20143991	UNITED STATES AMERICA	Integration of multi device (CCTV & ATC) display into the driver display unit	6/12/2008	6/11/2009	12/483023			4/29/2014	8712611	10/20/2031	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20143431	UNITED STATES AMERICA	Hydraulic power pack	7/22/2010	7/15/2011	13/184299			2/11/2014	8646730	7/15/2031	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20143445	UNITED STATES AMERICA	Trackside products condition monitoring	10/18/2010	10/12/2011	13/272,188			7/22/2014	8,786,426	10/12/2031	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
688	UNITED STATES AMERICA	Inrush Current Reduction	6/17/2000	6/15/2001	09/883126	2/25/2003		2/25/2003	6523654		ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20007352	UNITED STATES AMERICA	Trackside power distribution system	4/18/2000	12/18/2001	10/018760	9/26/2002	2002134278	8/31/2004	6782833	4/23/2021	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20015482	UNITED STATES AMERICA	Shock absorbing devices and methods, frame and vehicle having such shock absorbing devices	11/25/1993	2/19/1997	808965			2/10/1998	5715757	2/19/2017	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
10213602	UNITED STATES AMERICA	Apparatus and method for preventing sudden changes of pressure in vehicles	12/22/1994	8/8/1996	667603			7/15/1997	5647793	8/8/2016	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE

Case Code	PATENT OFFICE	Short title PAF	Priority Date	Filing Date	Filing Number	Publication Date	Publication Number	Grant Date	Grant Number	Expiration Date	Recorded owner(s)
10213760	UNITED STATES AMERICA	Multilevel electrical energy electronic convertor	12/29/1994	7/23/1996	676393			9/16/1997	5668711	7/23/2016	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10213785	UNITED STATES AMERICA	Multilevel electrical energy electronic convertor	12/29/1994	8/8/1996	667605			3/10/1998	5726870	8/8/2016	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10213837	UNITED STATES AMERICA	Electronic device for converting electrical energy	3/10/1995	10/23/1996	727546			1/6/1998	5706188	10/23/2016	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10214322	UNITED STATES AMERICA	Dispositif de verrouillage pour système d'ajustage	11/22/1995	11/20/1996	753113			3/24/1998	5730395	11/20/2016	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10214333	UNITED STATES AMERICA	Two-level coach with continuous circulation in the upper level and with access from a high platform	9/4/1995	9/3/1996	707074			7/8/1997	5644989	9/3/2016	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10214701	UNITED STATES AMERICA	Drawer for electronic cards with auto plug-in and draw-out drawer and its replaceable and method for dismounting electronic cards	1/19/1996	1/17/1997	784510			3/23/1999	5685089	1/17/2017	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10214918	UNITED STATES AMERICA	Stacked thyristors and freewheel diodes device	4/18/1996	4/17/1997	837394			4/27/1999	5696582	4/17/2017	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10214928	UNITED STATES AMERICA	Device with power semiconductor components	5/14/1996	5/12/1997	855887			3/16/1999	5683431	5/12/2017	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE

Case Code	PATENT OFFICE	Short title PAF	Priority Date	Filing Date	Filing Number	Publication Date	Publication Number	Grant Date	Grant Number	Expiration Date	Recorded owner(s)
20002700	UNITED STATES AMERICA	Multi-current traction system and method	6/4/1996	9/7/1999	08/867530			5/29/2001	6239999	6/2/2017	ALSTOM Transport Technologies C Avenue André Belin 92130 Levallois-Perret FRANCE
10215049	UNITED STATES AMERICA	Motorized bogie	5/7/1996	5/6/1997	852059			4/6/1999	5890434	5/6/2017	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
10215061	UNITED STATES AMERICA	Inclination device for articulated vehicles, train formed of vehicles and vehicle equipped with such a device	5/22/1996	5/21/1997	859909			7/13/1999	5921185	5/21/2017	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
10216643	UNITED STATES AMERICA	Continuously force controlled semi-active damper	7/5/1996	6/30/1997	08/885947			1/26/1999	5862894	6/30/2017	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
10216686	UNITED STATES AMERICA	Method to upgrade a cabinet with drawers for electronic circuit boards, and cabinet upgraded by this method	11/4/1996	11/3/1997	08/962821			11/23/1999	5989037	11/3/2017	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
10225667	UNITED STATES AMERICA	Method to upgrade a cabinet with drawers for electronic circuit boards, and cabinet upgraded by this method	11/4/1996	3/23/1999	09/274970			5/30/2000	6067711	11/3/2017	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
10216766	UNITED STATES AMERICA	Process and device for the internal pressure control of a ventilated enclosure	7/23/1996	7/22/1997	898247			11/16/1999	5984773	7/22/2017	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
10216798	UNITED STATES AMERICA	DC power supply device and process for a traction system by means of a converter for different ac or dc voltages	9/3/1996	8/29/1997	921011			3/23/1999	5886889	8/29/2017	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE

Case Code	PATENT OFFICE	Short title PAF	Priority Date	Filing Date	Filing Number	Publication Date	Publication Number	Grant Date	Grant Number	Expiration Date	Recorded owner(s)
10216843	UNITED STATES AMERICA	Electronic device for conversion of electric energy	8/9/1996	8/8/1997	908798			8/17/1999	5940285	8/8/2017	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
10217011	UNITED STATES AMERICA	Tilting device with link rods and bogie tiltable by link rods	11/25/1996	11/24/1997	977068			10/26/1999	5970883	11/24/2017	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
10220049	UNITED STATES AMERICA	Energy absorbing device and vehicle, especially railway vehicle, with such an absorbing device	2/10/1997	2/9/1998	09/020344			12/12/2000	6158356	2/9/2018	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
10223622	UNITED STATES AMERICA	Method for estimating the velocity of a vehicle or an assembly of vehicles		11/27/1998	09/200415			5/22/2001	6236954	11/27/2018	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
10223244	UNITED STATES AMERICA	DC energy converter device		8/20/1998	137142			5/23/2000	6067237	8/20/2018	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
10226167	UNITED STATES AMERICA	Caisse lego	4/17/1997	8/10/2000	09/060755			8/14/2001	6273497	4/16/2018	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
10222311	UNITED STATES AMERICA	Method for protecting against shocks between 2 vehicles using at least 1 inflatable element & device for carrying out the method		6/22/1998	102004			2/29/2000	6031449	6/22/2018	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
10221982	UNITED STATES AMERICA	Devices comprising inflatable elements for protecting vehicles against shocks	6/23/1997	6/22/1998	100960			3/21/2000	6039349	6/22/2018	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE

Case Code	PATENT OFFICE	Short title PAF	Priority Date	Filing Date	Filing Number	Publication Date	Publication Number	Grant Date	Grant Number	Expiration Date	Recorded owner(s)
10223336	UNITED STATES AMERICA	Articulated coupling	10/2/1997	10/1/1998	09/164572			5/22/2001	6234702	10/1/2018	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10223398	UNITED STATES AMERICA	Bogie with a tilting device	11/20/1997	9/30/1998	163157			3/13/2001	6199875	9/30/2018	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10224500	UNITED STATES AMERICA	Voltage traction system with a power bus bar for an electric traction unit	1/26/1998	1/26/1999	236.558			9/5/2000	6114829	1/26/2019	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10224492	UNITED STATES AMERICA	Sièges modulables i	2/12/1998	2/12/1999	09/249578			1/23/2001	6176547	2/12/2019	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10224628	UNITED STATES AMERICA	Phase intégrée refroidie par eau pour onduleur de traction électrique		2/22/1999	09/622672			5/22/2001	6236566	2/22/2019	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10224496	UNITED STATES AMERICA	Onduleur plat (gat 124 bis)	4/6/1998	4/1/1999	09/283149			6/19/2001	6249448	4/1/2019	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10224691	UNITED STATES AMERICA	Dispositif de maintien de tôles par robot laser	5/18/1998	5/17/1999	09/462205			8/14/2001	6274843	5/17/2019	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10224538	UNITED STATES AMERICA	Tôle pour le soudage laser	5/18/1998	5/17/1999	462206			5/8/2007	7213521	5/17/2019	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE

Case Code	PATENT OFFICE	Short title PAF	Priority Date	Filing Date	Filing Number	Publication Date	Publication Number	Grant Date	Grant Number	Expiration Date	Recorded owner(s)
10224636	UNITED STATES AMERICA	Chassis de bogie à longerons en anneau composite	6/18/1998	6/15/1999	09/333270			10/23/2001	6305297	6/15/2019	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
10224777	UNITED STATES AMERICA	Association d'un système de ferrites à un disjoncteur à ampoule sous vide	6/29/1998	6/28/1999	09/720618			4/16/2002	6371265	6/28/2019	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
10224634	UNITED STATES AMERICA	Bogie made of composite material for a railway vehicle and method of manufacturing of such a bogie	7/6/1998	6/30/1999	09/343413			4/10/2001	6213027	6/30/2019	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
10224632	UNITED STATES AMERICA	Bogie of a railway vehicle and its method of manufacturing	7/6/1998	6/30/1999	9343412			4/24/2001	6220177	6/30/2019	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
10224638	UNITED STATES AMERICA	Power supply system for an electric driven vehicle	8/28/1998	8/30/1999	384979			9/25/2001	6294886	8/30/2019	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
10224662	UNITED STATES AMERICA	Bogie with composite girders	9/2/1998	8/13/1999	09/373653			1/15/2002	6338300	8/13/2019	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
10225457	UNITED STATES AMERICA	High-power electronic device comprising cooling system	11/27/1998	11/23/1999	09/447832			2/5/2002	6344686	11/23/2019	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
10225563	UNITED STATES AMERICA	Rame ferroviaire (AT185)	1/27/1999	1/27/2000	09/492197			1/8/2002	6336409	1/27/2020	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE

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10225365	UNITED STATES AMERICA	Process for connecting power chips	10/30/1998	10/29/1999	429023			10/2/2001	6297079	10/29/2019	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10225791	UNITED STATES AMERICA	Contrôle optimisé de l'adhérence en traction	3/1/1999	3/10/2000	09/523187			6/25/2002	6411051	3/10/2020	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10225350	UNITED STATES AMERICA	Manufacturing method for an IGBT gate electrode	10/30/1998	10/29/1999	429030			8/14/2001	6274451	10/29/2019	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10225987	UNITED STATES AMERICA	Dispositif d'insertion et d'extraction de carte électronique	7/12/1999	7/7/2000	09/612361			8/27/2002	6442034	7/7/2020	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10225451	UNITED STATES AMERICA	Power semiconductor device	11/27/1998	11/23/1999	09/444998			8/21/2001	6278179	11/23/2019	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10226070	UNITED STATES AMERICA	Electromagnetic protection device for a drawer	7/30/1999	7/28/2000	09/628442			3/21/2006	7016201	7/28/2020	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10225911	UNITED STATES AMERICA	Body of a railway vehicle, railway vehicle and related methods of assembly	6/3/1999	6/2/2000	09/585363			4/30/2002	6378444	6/2/2020	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
10225862	UNITED STATES AMERICA	Flux and torque dead beat vector control for asynchronous motors	4/13/1999	4/12/2000	09/547867			11/6/2001	6313603	4/12/2020	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE

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10226294	UNITED STATES AMERICA	ALISS - Alimentation statique par le sol	10/25/1999	10/24/2000	09/694356			5/7/2002	6382378	10/24/2020	ALSTOM Transport 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
10226174	UNITED STATES AMERICA	Pantographe pendulaire: cinématique a vilebrequin	11/10/1999	11/9/2000	09/708654			4/2/2002	6363862	11/9/2020	ALSTOM Transport 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
10226274	UNITED STATES AMERICA	Système de contre pendulation du pantographe	11/10/1999	11/9/2000	09/708651			5/28/2002	6393998	11/9/2020	ALSTOM Transport 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
10226281	UNITED STATES AMERICA	Motor ventilating device and electric traction motor provided with this device	11/9/1999	11/7/2000	09/706742			5/27/2003	6570276	11/7/2020	ALSTOM Transport 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
20012430	UNITED STATES AMERICA	A system for managing the route of a rail vehicle	3/9/2001	2/25/2002	10/081188	9/12/2002	20020128757A1	7/20/2004	6766228	2/25/2022	ALSTOM Transport 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
10226645	UNITED STATES AMERICA	Protection device for a vehicle against an impact	4/4/2000	3/30/2001	09/821157	9/30/2002		9/3/2002	6443510	4/10/2021	ALSTOM Transport 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
10226524	UNITED STATES AMERICA	Impact protection device for a vehicle	3/23/2000	3/23/2001	09/814947	9/23/2002		9/24/2002	6454326	4/3/2021	ALSTOM Transport 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
20000990	UNITED STATES AMERICA	Body of a railway vehicle	8/30/2000	8/9/2001	09/924765	2/28/2002	20020024235A1	9/24/2002	6454345	8/20/2021	ALSTOM Transport 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE

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10226746	UNITED STATES AMERICA	A rail vehicle including an end car extended by a cab	5/22/2000	5/22/2001	09/861644	12/20/2001	20010052305A1	10/1/2002	6457420	6/2/2021	ALSTOM Transport Technologies 3 Avenue André Maréchal 92389 Levallois-Perret FRANCE
20000692	UNITED STATES AMERICA	Automatic track laying device using topographic stations for guidance	8/1/2000	7/17/2001	09/906067	2/7/2002	20020014015a1	1/14/2003	6505406	7/28/2021	ALSTOM Transport Technologies 3 Avenue André Maréchal 92389 Levallois-Perret FRANCE
10226401	UNITED STATES AMERICA	Dispositif de commande anticipatif pour fonctions de confort asservies		4/17/2000	09/762468			11/19/2002	6484074	4/17/2020	ALSTOM Transport Technologies 3 Avenue André Maréchal 92389 Levallois-Perret FRANCE
20000407	UNITED STATES AMERICA	Soudure par billes de circuits de puissance	7/7/2000	7/6/2001	09/899078	1/17/2002	20020006685A1	7/8/2003	6589859	7/6/2021	ALSTOM Transport Technologies 3 Avenue André Maréchal 92389 Levallois-Perret FRANCE
20000544	UNITED STATES AMERICA	Dispositif de gonflage et déchappement d'un coussin gonflable	7/12/2000	7/11/2001	09/901668	1/17/2002	20020005142A1	12/24/2002	6497183	7/22/2021	ALSTOM Transport Technologies 3 Avenue André Maréchal 92389 Levallois-Perret FRANCE
20044154	UNITED STATES AMERICA	Method and device for power control of a railway motor vehicle	4/19/2002	4/3/2003	10/405644	10/23/2003	20030197493A1	9/21/2004	6794838	4/3/2023	ALSTOM Transport Technologies 3 Avenue André Maréchal 92389 Levallois-Perret FRANCE
10226731	UNITED STATES AMERICA	Composant de puissance pour convertisseur intégré	5/22/2000	5/11/2001	09/852655	12/27/2001	20010055714A1	8/27/2002	6442023	5/22/2021	ALSTOM Transport Technologies 3 Avenue André Maréchal 92389 Levallois-Perret FRANCE
20003312	UNITED STATES AMERICA	Procédé de localisation d'un véhicule ferroviaire	12/4/2000	10/25/2001	09/983675	8/15/2002	20020109049A1	12/24/2002	6498969	11/5/2021	ALSTOM Transport Technologies 3 Avenue André Maréchal 92389 Levallois-Perret FRANCE

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20007334	UNITED STATES AMERICA	Spot transmission function	1/22/2001	12/26/2001	10/025554	9/5/2002	20020121991A1	2/17/2004	6693562	12/26/2021	ALSTOM Transport Technologies 3 Avenue André Belin 92133 Levallois-Perret FRANCE
20007927	UNITED STATES AMERICA	Rechargement de véhicule électrique autonome en station	1/24/2001	1/15/2002	10/044906	7/25/2002	20020096412A1	5/6/2003	6557476	1/15/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92133 Levallois-Perret FRANCE
20013154	UNITED STATES AMERICA	Method & device of controlling the elect power supply of an elect driven vehicle for operation in an ext or autonomous mode	3/29/2001	3/8/2002	10/092595	10/3/2002	20020139629A1	3/8/2005	6864598	3/8/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92133 Levallois-Perret FRANCE
20022059	UNITED STATES AMERICA	Enhanced convective heat sink for rail applications	7/6/2001	7/3/2002	10/188089	6/26/2003	20030117824A1	9/23/2003	6625024	7/3/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92133 Levallois-Perret FRANCE
20006451	UNITED STATES AMERICA	Crashworthiness train cabin	12/18/2000	11/29/2001	09/995581	6/20/2002	20020073887A1	5/13/2003	6561105	11/29/2021	ALSTOM Transport Technologies 3 Avenue André Belin 92133 Levallois-Perret FRANCE
20008682	UNITED STATES AMERICA	Discrete-time field-oriented control (DFOC) for synchronous motors	2/14/2001	1/28/2002	10/056039	10/17/2002	20020149337A1	8/12/2003	6605917	1/28/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92133 Levallois-Perret FRANCE
20056192	UNITED STATES AMERICA	Contrôle de la vitesse d'une chaîne mécanique peu amortie par régulation CRONE	5/29/2001	5/6/2002	10/479106			2/15/2005	6856111	5/6/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92133 Levallois-Perret FRANCE
20010442	UNITED STATES AMERICA	Substrate for electronic power circuit and electronic power module utilizing such a substrate		1/31/2002	10/059359	9/12/2002	20020125505A1	7/1/2003	6586783	1/31/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92133 Levallois-Perret FRANCE

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20022228	UNITED STATES AMERICA	Method and device for testing a power module	8/2/2001	7/23/2002	10/200191	2/6/2003	20030025522A1	12/28/2004	6836125	7/23/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20018283	UNITED STATES AMERICA	Substrat diamant pour semiconducteurs de puissance	6/20/2001	6/19/2002	10/173879	12/26/2002	20020196610A1	5/18/2004	6738253	6/19/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20018602	UNITED STATES AMERICA	Driven running gear for railway vehicles	6/26/2001	6/20/2002	10/175457	12/26/2002	20020195018A1	8/5/2003	6601520	6/20/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20032061	UNITED STATES AMERICA	A safe rail vehicle tilt control method	10/23/2001	10/16/2002	10/270656	4/24/2003	20030075074A1	9/7/2004	6786159	10/16/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20030648	UNITED STATES AMERICA	Railbound vehicle air-conditioning, distribution in passenger compartments	10/4/2001	9/23/2002	10/252052	4/10/2003	20030069699A1	5/13/2003	6561893	9/23/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20027360	UNITED STATES AMERICA	Bulge to pad led system for electronic components or assemblies	9/21/2001	9/5/2002	10/234255	3/27/2003	20030056892A1	11/1/2005	6960278	9/16/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20033898	UNITED STATES AMERICA	Process avoiding bubbles under rail baseplate & center anchors during solid concrete track const	11/7/2001	10/24/2002	10/278980	5/8/2003	20030084558	5/11/2004	6732418	10/24/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20033096	UNITED STATES AMERICA	Process avoiding bubbles under rail baseplate & center anchors during solid concrete track const	11/7/2001	10/24/2002	10/278981	5/8/2003	20030085294A1	10/18/2005	6954974	11/4/2022	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE

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20034606	UNITED STATES AMERICA	Plateforme d'essais crash	11/13/2001	11/8/2002	10/290321	5/15/2003	20030089268A1	5/25/2004	6739175	11/8/2022	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20038707	UNITED STATES AMERICA	Planar integrated diamond converter	1/17/2002	1/8/2003	10/337868	8/28/2003	20030160516A1	1/30/2007	7170199	5/8/2025	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20038543	UNITED STATES AMERICA	Mesa integrated diamond converter	1/17/2002	1/13/2003	10/340724			8/24/2004	6781854	1/24/2023	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20036180	UNITED STATES AMERICA	Improvement of the appltrack automated track-laying process	12/5/2001	12/4/2002	10/309075	6/5/2003	20030102586A1	7/5/2005	6913717	12/15/2022	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20038478	UNITED STATES AMERICA	Method for building a track on a concrete slab	1/24/2002	1/13/2003	10/340665	9/25/2003	20030178500A1	6/22/2004	6752322	1/13/2023	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20014130	UNITED STATES AMERICA	Medium frequency energy supply for rail vehicles	1/27/2001	1/28/2002	10/058454	8/1/2002	20020101747	9/5/2006	7102901	8/26/2022	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20044944	UNITED STATES AMERICA	Mass transit transport system traction energy savings	5/3/2002	4/18/2003	10/418100	12/18/2003	20030230994A1	7/8/2008	7397149	4/18/2023	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE
20059754	UNITED STATES AMERICA	IGBT switching control	2/10/2003	2/9/2004	10/773445	11/4/2004	2004/0220703	9/18/2007	7271507	2/9/2024	ALSTOM Transport Technologies 3 Avenue André Belletun 92200 Levallois-Perret FRANCE

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20046262	UNITED STATES AMERICA	System preventing front window intrusion into driver's cab	5/31/2002	5/15/2003	10/437969	12/4/2003	20030221584A1	9/13/2005	6941874	5/26/2023	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20053417	UNITED STATES AMERICA	Adaptive step system for railway vehicle	10/16/2002	9/29/2003	10/671711	7/1/2004	20040128075A1	5/17/2005	6895358	9/29/2023	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20052823	UNITED STATES AMERICA	Passenger base traffic regulation	9/26/2002	9/17/2003	10/663761			8/22/2006	7096114	3/29/2024	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20052118	UNITED STATES AMERICA	Initial rotor position measurement of synchronous machine	9/5/2002	9/3/2003	10/653250	5/6/2004	20040085064A1	2/1/2005	6850863	9/3/2023	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20062036	UNITED STATES AMERICA	Enhanced ERMTS level 2 system	6/27/2003	5/28/2004	10/855647	12/30/2004		8/8/2006	7089093	5/28/2024	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20070039	UNITED STATES AMERICA	Dispositif de liaison souple entre un longeron flexible et une boîte d'essieu	12/2/2003	11/29/2004	10/997913	6/2/2005	20050116436A1	2/12/2008	7328660	11/29/2024	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20061130	UNITED STATES AMERICA	Power module and inverter including such modules	4/9/2003	4/8/2004	10/821031			5/9/2006	7042725	4/8/2024	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20064022	UNITED STATES AMERICA	High voltage packaging for IGBT converters	6/4/2003	6/1/2004	10/858293	1/27/2005	20050017264	2/7/2006	6995409	6/12/2024	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE

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20060294	UNITED STATES AMERICA	Diagramme de train à grande vitesse	4/8/2003	3/26/2004	10/810172	10/14/2004	20040200383	2/20/2007	7178466	3/26/2024	ALSTOM Transport Technologies 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
20063761	UNITED STATES AMERICA	Fast machine control during synchronous PWM operation		5/28/2004	10/855890	1/6/2005	20050001571A1	8/22/2006	7095197	5/28/2024	ALSTOM Transport Technologies 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
20064342	UNITED STATES AMERICA	Instantaneous torque set point calculation from mean torque set point	6/2/2003	6/1/2004	10/857589	6/1/2005	20050001572A1	9/19/2006	7109674	12/22/2024	ALSTOM Transport Technologies 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
20058137	UNITED STATES AMERICA	Ground power supply for electric vehicle with earth connection	4/30/1997	3/16/1998	09/214184	11/5/1998	09/214184	6/26/2001	6250442	3/16/2018	ALSTOM Transport Technologies 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
20074627	UNITED STATES AMERICA	Retractable threshold for access doors	2/4/2004	2/2/2005	11/047649	10/6/2005	20050217539A1	2/20/2007	7178467	2/2/2025	ALSTOM Transport Technologies 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
20113758	UNITED STATES AMERICA	Integrated close field probe system for emc investigation on an hybrid power structure	5/14/2004	2/27/2009	12/394920	6/25/2009	2009/0160438	9/20/2011	8022697	5/14/2024	ALSTOM Transport Technologies 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
20078892	UNITED STATES AMERICA	Maglev - système de guidage - commande d'orientation des modules en courbes	7/2/2004	6/28/2005	11/168965			12/2/2008	7458323	6/28/2025	ALSTOM Transport Technologies 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE
20078903	UNITED STATES AMERICA	Maglev - architecture de suspension	7/2/2004	6/28/2005	11/168982	5/1/2006	11/168982	7/29/2008	7404361	6/28/2025	ALSTOM Transport Technologies 3 Avenue André Mauroux 92300 Levallois-Perret FRANCE

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20090462	UNITED STATES AMERICA	Portes coulissantes ferroviaires	8/27/2004	8/26/2005	11/661367	11/20/2008	20080282614	9/7/2010	7789022	8/26/2025	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20085567	UNITED STATES AMERICA	Architecture tiroir électronique	6/7/2005	6/6/2006	11/447492	12/7/2006	20060274516	2/5/2008	7327580	6/6/2026	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20084028	UNITED STATES AMERICA	Asynchronous machine deadbeat control	5/23/2005	5/16/2006	11/435016	7/12/2006	20060273754A1	11/20/2007	7298112	5/16/2026	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20090154	UNITED STATES AMERICA	Maintaining ubus voltage	10/7/2005	11/21/2006	11/602798	6/21/2007	2007/0138995	10/14/2008	7436142	11/21/2026	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20087837	UNITED STATES AMERICA	Precharge for "Bi-Frequency" operation	10/7/2005	11/21/2006	11/602,848	6/7/2007	2007126377	1/6/2009	7474066	11/21/2026	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20091019	UNITED STATES AMERICA	Guiding process for relative insertion of elements in the ground	2/23/2006	2/23/2007	11/710012	8/30/2007	20070201161	9/30/2008	7428778	2/23/2027	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20093511	UNITED STATES AMERICA	Train control system with automatic stopping accuracy adjustment	8/25/2006	8/23/2007	11/895140	2/28/2008		7/17/2012	8224511	8/3/2027	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20092135	UNITED STATES AMERICA	Modular composite side design	6/2/2006	5/31/2007	11/809082	1/17/2008	20080011188	6/14/2011	7958831	5/31/2027	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE

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20090338	UNITED STATES AMERICA	Vital software diversification based on components execution order	3/17/2006	3/12/2007	11/7/16956	9/12/2008		12/8/2009	7631113	3/12/2027	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20092331	UNITED STATES AMERICA	Vehicle carbody with composite ends	6/2/2006	6/1/2007	11/809451	12/27/2007	20070296240	5/1/2012	8166888	6/1/2027	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20117535	UNITED STATES AMERICA	Tramway bogie for low floor trainset rotating under carbody	4/5/2007	3/18/2008	12/594804			2/12/2013	8871234	11/20/2028	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20092281	UNITED STATES AMERICA	Reduction of control force in manual operation of point machine	7/19/2006	7/17/2007	11/879359	2/28/2008	20080048070	3/8/2011	7900879	6/23/2029	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20093188	UNITED STATES AMERICA	Courant/tension mesurement device	7/25/2006	7/24/2007	11/880738	5/21/2009	20090128122A9	9/21/2010	7800355	7/24/2027	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20117327	UNITED STATES AMERICA	Current/voltage measurement integration on AC roof circuit breaker	2/20/2007	2/5/2008	12/526859	1/4/2010	2010-0006385	4/10/2012	8151955	2/5/2028	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20101873	UNITED STATES AMERICA	Tramway rame longue	3/8/2007	3/7/2008	12/074957	9/11/2008	20080216703	10/19/2010	7814841	3/7/2028	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20117473	UNITED STATES AMERICA	Bogie with compact primary suspension	4/5/2007	3/14/2008	12/594797	7/26/2010		3/20/2012	8136455	3/14/2028	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE

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20117505	UNITED STATES AMERICA	Railway vehicle with shifted corridor	4/5/2007	3/14/2008	12/594808	6/3/2010	2010-0132586	3/17/2015	US 8978563	5/13/2030	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20107452	UNITED STATES AMERICA	Cabin glass cap	6/7/2007	6/4/2008	12/156765	2/1/2009	2008/0309125	11/8/2011	8051780	6/4/2028	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20103799	UNITED STATES AMERICA	Fast state controls of a traction power supply filter under constraints	5/25/2007	5/23/2008	12/154498	11/27/2008	20080291705	9/21/2010	7800330	5/23/2028	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20106640	UNITED STATES AMERICA	Entry-vestibule and deck adapted to PMR	7/2/2007	7/2/2008	12/166555			3/22/2011	7908976	7/2/2028	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20109681	UNITED STATES AMERICA	Safe rheostatic braking with a permanent magnet synchronous motor	9/4/2007	9/4/2008	12/231551	9/10/2009	2009224705	7/19/2011	7982418	7/11/2029	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20109698	UNITED STATES AMERICA	Safe detection of lack of electric braking and switching on a safe rheostatic braking	9/4/2007	9/4/2008	12/231569	9/10/2009	20090224706	7/26/2011	7986115	9/4/2028	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20109715	UNITED STATES AMERICA	Second scheme of safe rheostatic braking with a PMSM	9/4/2007	9/4/2008	12/231568	12/3/2009	2009066272	4/3/2012	8148925	9/4/2028	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE
20108142	UNITED STATES AMERICA	Direct shunting between the tyres of the wheels of the same axle	10/15/2007	10/14/2008	12/287745	5/7/2009	2009/0115249	1/24/2012	8102075	8/11/2030	ALSTOM Transport Technologies 3 Avenue André Belletun 92300 Levallois-Perret FRANCE

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20112727	UNITED STATES AMERICA	Reinforced rubber gangway below	1/24/2008	1/23/2009	12/358313	10/14/2009	20090193999	5/1/2012	8166889	1/23/2029	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20113775	UNITED STATES AMERICA	Combined single electric channel for double-track aps equipment	2/6/2008	2/6/2009	12/367223	10/8/2009	20090251006	4/26/2011	7932625	8/21/2029	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20113637	UNITED STATES AMERICA	Arc block permanent magnets	2/8/2008	2/9/2009	12/367733	10/22/2009	20090261676	4/10/2012	8151439		ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20113896	UNITED STATES AMERICA	Low floor car for high speed train	3/11/2008	3/9/2009	12/381189	10/15/2009	2009-255437	10/16/2012	8286560	9/19/2029	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20113881	UNITED STATES AMERICA	Vestibule access for people with reduced mobility	3/20/2008	3/19/2009	12/383026	2/25/2010	20100043669	12/10/2013	8601953	3/19/2029	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20113756	UNITED STATES AMERICA	Continuous electric measurement of entry value in a threshold gate	3/19/2008	3/18/2009	12/381980	9/24/2009	2009-0241014	11/20/2012	8316290	7/6/2031	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20117451	UNITED STATES AMERICA	Véhicule à plancher bas intégral avec bogie pivotant	4/5/2007	3/14/2008	12/594801	6/3/2010	20100132585	2/26/2013	8381659	11/20/2028	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE
20117462	UNITED STATES AMERICA	Véhicule ferroviaire comprenant des bogies d'extrémité pivotants	4/5/2007	3/14/2008	12/594807	4/8/2010	2010-0083866	2/5/2013	8365675	3/14/2028	ALSTOM Transport Technologies 3 Avenue André Belinoux 92300 Levallois-Perret FRANCE

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20116905	UNITED STATES AMERICA	Ergonomic traction/braking controller with sensitive touch	7/25/2008	7/23/2009	12/507975	1/28/2010	201000187794	5/8/2012	8172028	7/23/2029	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
20130883	UNITED STATES AMERICA	Data Radio Communication System (DRCS)	1/16/2008	1/16/2009	12/863164	8/11/2011	20110194541	4/1/2014	8687612	7/16/2030	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
20117550	UNITED STATES AMERICA	Assembly for prestressing a hydraulic valve	10/1/2008	9/30/2009	12/570920	4/1/2010	2010-0078277	11/27/2012	8317004	9/30/2029	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
20118491	UNITED STATES AMERICA	Disconnecter with manual closing and electrical opening	11/28/2008	11/30/2009	12/627973	6/3/2010	20100134223	11/27/2012	8319587	10/6/2030	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
20118073	UNITED STATES AMERICA	Boilier de raccordement Pour les APS - Eclisses	11/21/2008	11/23/2009	12/624021	7/15/2010	20100175961	11/22/2011	8061494	11/23/2029	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
20114715	UNITED STATES AMERICA	Oil cooled devices: oil flow detection at very low temperature without using any flow meter	3/12/2008	3/4/2009	12/397373			10/12/2010	7812699	3/4/2029	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
20137333	UNITED STATES AMERICA	Low SWR power restitution on data bus	3/31/2009	3/31/2010	13/262527	5/17/2012	20120119568	10/27/2015	9172432	11/14/2032	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE
20138418	UNITED STATES AMERICA	Railway alert conveyor	4/30/2009	4/30/2010	13266819	9/27/2012	20120242484	2/23/2016	9266544	4/30/2029	ALSTOM Transport Technologies 3 Avenue André Belletun 92389 Levallois-Perret FRANCE

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20128304	UNITED STATES AMERICA	Crash in gangway zone for AGV/NTV	5/6/2009	5/5/2010	12/7/99931	12/30/2010	20100326944	8/12/2014	8.800.453	5/5/2030	ALSTOM Transport Technologies 3 Avenue André Belinoux 92333 Levallois-Perret FRANCE
20129719	UNITED STATES AMERICA	Bogie architecture with articulated frame	6/5/2009	6/4/2010	12/802369	12/9/2010	20100307371	11/15/2011	8056482	6/4/2030	ALSTOM Transport Technologies 3 Avenue André Belinoux 92333 Levallois-Perret FRANCE
20129689	UNITED STATES AMERICA	Compact transmission for inner axlebox bogie	6/5/2009	6/4/2010	12/802367	12/9/2010	20100307370	5/8/2012	8171861	6/4/2030	ALSTOM Transport Technologies 3 Avenue André Belinoux 92333 Levallois-Perret FRANCE
20130825	UNITED STATES AMERICA	Circuit d'alimentation SIL2 utilisant le signal vidéo comme voie de relecture	7/21/2009	7/20/2010	12/839952	3/17/2011	20110063452	12/9/2014	8908902	7/16/2032	ALSTOM Transport Technologies 3 Avenue André Belinoux 92333 Levallois-Perret FRANCE
20132531	UNITED STATES AMERICA	Mixed virtual gates and physical fences	11/26/2009	11/23/2010	12/952840			6/3/2014	8742925	11/23/2030	ALSTOM Transport Technologies 3 Avenue André Belinoux 92333 Levallois-Perret FRANCE
20134999	UNITED STATES AMERICA	Onboard route management	4/1/2010	3/30/2011	13/065813	1/5/2012	20120004796	9/2/2014	8.820.685	3/30/2031	ALSTOM Transport Technologies 3 Avenue André Belinoux 92333 Levallois-Perret FRANCE
20135475	UNITED STATES AMERICA	DC reversible substation : "Loop Mode" for de-icing application	4/19/2010	4/19/2011	13/090137	3/22/2012	20120067850A1	12/9/2014	8.907.255	9/20/2032	ALSTOM Transport Technologies 3 Avenue André Belinoux 92333 Levallois-Perret FRANCE
20135271	UNITED STATES AMERICA	Bogie to car body lateral stop on longitudinally fixed traction motor	4/14/2010	4/14/2011	13/086923	10/20/2011	2011/0253003	12/3/2013	8596202	12/3/2031	ALSTOM Transport Technologies 3 Avenue André Belinoux 92333 Levallois-Perret FRANCE

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20136917	UNITED STATES AMERICA	Harmonic losses reduction in permanent magnet motors	8/2/2010	8/2/2011	13/196377	3/8/2012	2012-0056576	8/27/2013	8519661	3/14/2032	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20137339	UNITED STATES AMERICA	Nouvelle architecture locomotive diesel électrique	8/16/2010	8/16/2011	13/210661			10/8/2013	8550009	10/16/2031	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20137967	UNITED STATES AMERICA	Automatic signaling technical plans maker	9/13/2010	9/13/2011	13231531	9/20/2012	US-2012-0234986-A1	7/15/2014	8,781,803	9/13/2031	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20137697	UNITED STATES AMERICA	Aesthetic power supply by induction with up side down infrastructure	10/7/2010	10/6/2011	13267472			6/25/2013	8469166	12/16/2031	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20141441	UNITED STATES AMERICA	3D electric field gradation in electrical insulator substrate	5/17/2011	5/17/2012	13/473846	2/21/2013	20130044441	3/15/2016	9287223	5/19/2034	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20141473	UNITED STATES AMERICA	Quick recharge by pantograph using end horns	6/14/2011	6/13/2012	13/495179			5/12/2016	9030163		ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20144088	UNITED STATES AMERICA	Vital Current Sensor suitable for railway applications	7/26/2013	7/26/2013	13/952064	1/29/2015	US-2015-0028163-A1				ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE
20144144	UNITED STATES AMERICA	Logical vote and negation mechanism	6/19/2012	6/19/2013	13/921766	12/19/2013	20130339755	7/21/2015	9087217	8/21/2033	ALSTOM Transport Technologies 3 Avenue André Belin 92130 Levallois-Perret FRANCE

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20144151	UNITED STATES AMERICA	Train composition by the train in safety	6/27/2012	6/26/2013	13/928183	1/2/2014	2014-0005863	12/29/2015	9221479	9/29/2033	ALSTOM Transport Technologies 3 Avenue André Belletun 92333 Levallois-Perret FRANCE
20144167	UNITED STATES AMERICA	Integrated and distributed gate driver for silicon carbide power pack	5/3/2012	5/1/2013	13/875021	11/7/2013	20130293002				ALSTOM Transport Technologies 3 Avenue André Belletun 92333 Levallois-Perret FRANCE
20144175	UNITED STATES AMERICA	Serviceable refrigerant circuit	9/13/2012	9/11/2013	14/024519	3/13/2014	20140069135A1				ALSTOM Transport Technologies 3 Avenue André Belletun 92333 Levallois-Perret FRANCE
20144195	UNITED STATES AMERICA	Fault symetrisation in permanent magnet motor	3/2/2012	2/28/2013	13/781067	9/5/2013	20130229732			2/28/2033	ALSTOM Transport Technologies 3 Avenue André Belletun 92333 Levallois-Perret FRANCE
20144202	UNITED STATES AMERICA	Supercapacitance module insulation failure protection	2/16/2012	2/15/2013	13/768674	8/22/2013	2013-0215535	6/2/2015	9048659		ALSTOM Transport Technologies 3 Avenue André Belletun 92333 Levallois-Perret FRANCE
20144221	UNITED STATES AMERICA	Bogie for low floor tram without steel spring suspension	6/18/2012	6/18/2013	13/920996	12/19/2013	20130333590	8/4/2015	9096240	2/4/2034	ALSTOM Transport Technologies 3 Avenue André Belletun 92333 Levallois-Perret FRANCE
20144242	UNITED STATES AMERICA	Reliable short-circuit to ground protection for super-capacitors energy storage module	5/22/2012	5/17/2013	13/896565	11/28/2013	20130314823	12/8/2015	9209616	1/9/2034	ALSTOM Transport Technologies 3 Avenue André Belletun 92333 Levallois-Perret FRANCE
20144359	UNITED STATES AMERICA	Reversible DC substation: Self Adaptive Substation	12/27/2012	12/26/2013	14/140664	7/3/2014	20140182991A1	5/26/2015	9038794		ALSTOM Transport Technologies 3 Avenue André Belletun 92333 Levallois-Perret FRANCE

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20144371	UNITED STATES AMERICA	Distance and speed measurement for railway vehicles	12/27/2012	12/23/2013	14/138398	7/3/2014	US-2014-0188427 A1				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144391	UNITED STATES AMERICA	Onboard fuel distribution and its control	3/29/2013	3/14/2014	14212406	10/2/2014	20140290526A1			3/14/2034	ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144565	UNITED STATES AMERICA	Railway application of 802.11 TPC for mobility	8/9/2013	8/8/2014	14/455,405	2/12/2015	US20150045086	5/3/2016	9932500		ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144571	UNITED STATES AMERICA	Regenerative braking improvement	3/5/2012	3/5/2013	14/378,862	1/8/2015	2015008733A1				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144606	UNITED STATES AMERICA	Protection of Communication Base Train Control (CBTC) in an un-licensed frequency band.	9/19/2013	9/18/2014	14/490,179					9/18/2034	ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144615	UNITED STATES AMERICA	Track-Survey Tool	9/20/2013	9/18/2014	14/490,304						ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144623	UNITED STATES AMERICA	Safe position measurement from 3 sensors	3/20/2012	3/20/2013	14/386233	10/15/2015	20150293139				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144676	UNITED STATES AMERICA	Use of external aerodynamic to optimize any roof equipment cooling - Example of application: brake resistor cooling	12/6/2013	12/3/2014	14/559,718						ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE

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20144678	UNITED STATES AMERICA	Coupler retreat system using shearing of metal sheet	12/9/2013	12/8/2014	14/563,855	6/11/2015	20150158508A1			12/8/2034	ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144695	UNITED STATES AMERICA	AUTOMATIC POWER SUPPLY SWITCH OFF IN DERAILMENT SITUATION	12/11/2013	12/11/2014	14/567,884						ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144700	UNITED STATES AMERICA	Reversible heat pump system for railway application with integrated solution for evaporator frosting phenomenon	1/8/2014	1/8/2015	14/592,030	7/9/2015	20150191182A1				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144732	UNITED STATES AMERICA	Dismantled Ground Power Rail	2/10/2014	2/9/2015	14/616,938	8/13/2015	20150224999A1				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144748	UNITED STATES AMERICA	Ground level power supply collection without running rails	3/25/2014	3/25/2015	14667838	10/1/2015	20150274035A1				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144767	UNITED STATES AMERICA	air diffusion system for modularity	3/20/2014	3/19/2015	14662693	9/24/2015	20150266492A1				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144819	UNITED STATES AMERICA	Ground level power supply - Voltage adaptation to the vehicle speed	3/25/2014	3/24/2015	14/667,566	10/1/2015	20150274034A1				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20144960	UNITED STATES AMERICA	Bogie brake protection by foam/plastic	11/6/2014	9/10/2015	14/849,988						ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE

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20144976	UNITED STATES AMERICA	Anticipation of transition APS / Autonomy's area for Light Rail vehicle	9/4/2014	8/31/2015	14/840,794						ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20145019	UNITED STATES AMERICA	Adjustable and Modular Cantilever for Electric Railway, Trolley and Subway Overhead Contact Lines	10/15/2014	10/7/2015	14/877667	4/21/2016	20160107541				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20145377	UNITED STATES AMERICA	Gangway arrangement with seated places	11/6/2014	11/5/2015	14/934047	5/12/2016	20160129922				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20145394	UNITED STATES AMERICA	Aerolic assistance by scop introduction	12/3/2014	12/3/2015	14/958745	6/9/2016	20160159373				ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20145400	UNITED STATES AMERICA	Architecture of an infrastructure condition monitoring system	12/4/2014	12/3/2015	14/958763						ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20145417	UNITED STATES AMERICA	Welded Box Free Bogie Frame	12/4/2014	12/3/2015	14/958718	6/9/2016	20160159374			12/3/2035	ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE
20146530	UNITED STATES AMERICA	METHOD FOR CONTROLLING A LAND TRANSPORT VEHICLE, LAND TRANSP	9/4/2014	6/23/2017	15/631,605						ALSTOM Transport Technologies 3 Avenue Andre Maitraux 92300 Levallois-Perret FRANCE

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