

Allison Transmission Holdings Inc
 Form 424B3
 December 12, 2013
Table of Contents

Filed pursuant to Rule 424(b)(3)

Registration No. 333-187903

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered	Proposed	Proposed	Amount of Registration Fee(2)
		Maximum Offering Price Per Share(1)	Maximum Aggregate Offering Price	
Common stock, \$0.01 par value	12,500,000	\$27.09	\$338,625,000	\$43,615(1)

- (1) Estimated pursuant to Rule 457(c). The offering price and registration fee are based on the average of the high and low prices for our common stock on December 5, 2013, as reported on the New York Stock Exchange.
- (2) Calculated in accordance with Rule 457(r) and relates to the registration statement on Form S-3 (File No. 333-187903) filed on April 15, 2013.

Table of Contents

PROSPECTUS SUPPLEMENT

(To Prospectus dated April 15, 2013)

12,500,000 Shares

Allison Transmission Holdings, Inc.

Common Stock

This prospectus relates to the shares of common stock of Allison Transmission Holdings, Inc. being sold by affiliates of The Carlyle Group (Carlyle) and affiliates of Onex Corporation (Onex) (collectively, the selling stockholders or the Sponsors). We will not receive any proceeds from the sale of our common stock by the selling stockholders.

You should carefully read this prospectus supplement and the accompanying prospectus, together with the documents we incorporate by reference, before you invest in our common stock.

INVESTING IN OUR COMMON STOCK INVOLVES RISKS. SEE THE RISK FACTORS ON PAGE S-5 OF THIS PROSPECTUS SUPPLEMENT AND PAGE 6 OF THE ACCOMPANYING PROSPECTUS.

Our common stock is listed on the New York Stock Exchange (NYSE) under the symbol ALSN. On December 10, 2013, the last reported sale price of our common stock on the NYSE was \$27.41 per share.

The underwriter will purchase the shares from the selling stockholders at the price of \$25.56 per share, resulting in aggregate proceeds of \$319,500,000 to the selling stockholders. The shares may be offered by the underwriter from time to time to purchasers directly or through agents, or through brokers in brokerage transactions on the New York Stock Exchange, or to dealers in negotiated transactions or in a combination of such methods of sale, at a fixed price or prices, which may be changed, or at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement. Any representation to the contrary is a criminal offense.

Delivery of the shares of common stock is expected on or about December 16, 2013.

Credit Suisse

The date of this prospectus supplement is December 10, 2013.

Table of Contents

TABLE OF CONTENTS

Prospectus Supplement

<u>ABOUT THIS PROSPECTUS SUPPLEMENT</u>	S-1
<u>PROSPECTUS SUPPLEMENT SUMMARY</u>	S-2
<u>RISK FACTORS</u>	S-5
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION</u>	S-7
<u>USE OF PROCEEDS</u>	S-8
<u>SELLING STOCKHOLDERS</u>	S-9
<u>MATERIAL U.S. FEDERAL TAX CONSIDERATIONS FOR NON-U.S. HOLDERS</u>	S-11
<u>UNDERWRITING</u>	S-15
<u>LEGAL MATTERS</u>	S-21
<u>EXPERTS</u>	S-21
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	S-21
<u>INCORPORATION BY REFERENCE</u>	S-22

Prospectus

<u>ABOUT THIS PROSPECTUS</u>	1
<u>CERTAIN TRADEMARKS</u>	1
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	2
<u>INCORPORATION BY REFERENCE</u>	2
<u>THE COMPANY</u>	4
<u>RISK FACTORS</u>	6
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION</u>	7
<u>USE OF PROCEEDS</u>	8
<u>PLAN OF DISTRIBUTION</u>	9
<u>DESCRIPTION OF CAPITAL STOCK</u>	11
<u>LEGAL MATTERS</u>	15
<u>EXPERTS</u>	15

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This document has two parts, a prospectus supplement and an accompanying prospectus dated April 15, 2013. This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (SEC), utilizing a shelf registration process. Under this shelf registration process, the selling stockholders named in a prospectus supplement may, from time to time, offer and sell our common stock in one or more offerings or resales.

The accompanying prospectus provides you with a general description of our common stock, which the selling stockholders may offer pursuant to this prospectus supplement. This prospectus supplement, which describes certain matters relating to us and the specific terms of this offering of shares of our common stock, adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. Any statement that we make in the accompanying prospectus will be modified or superseded by any inconsistent statement made by us in this prospectus supplement.

The rules of the SEC allow us to incorporate by reference information into this prospectus supplement. This information incorporated by reference is considered to be a part of this prospectus supplement, and information that we file later with the SEC, to the extent incorporated by reference, will automatically update and supersede this information. See Incorporation by Reference. You should read both this prospectus supplement and the accompanying prospectus together with additional information described under the heading Where You Can Find More Information before investing in our common stock.

We are responsible for the information contained or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any related free-writing prospectus we prepare or authorize. Neither we, the underwriter, nor the selling stockholders have authorized anyone to give you any other information, and we take no responsibility for any other information that others may give you. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus supplement or the accompanying prospectus. This prospectus supplement and the accompanying prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

You should not assume that the information contained in this prospectus supplement and the accompanying prospectus or any free writing prospectus prepared by us is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus supplement and the accompanying prospectus is delivered or securities are sold on a later date. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Unless otherwise noted in this prospectus supplement, the term Allison Holdings means Allison Transmission Holdings, Inc. When we refer to Allison, we, our, us and the Company in this prospectus supplement, we mean Allison Transmission Holdings, Inc. and its consolidated subsidiaries, unless otherwise specified.

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights important features of this offering and the information included or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary does not contain all of the information that you should consider before investing in our common stock. You should read carefully the entire prospectus supplement, the accompanying prospectus and the documents incorporated by reference, especially the risks of investing in our common stock discussed under Risk Factors.

Company Overview

We are the world's largest manufacturer of fully-automatic transmissions for medium- and heavy-duty commercial vehicles, medium- and heavy-tactical U.S. defense vehicles and hybrid-propulsion systems for transit buses. Allison transmissions are used in a wide variety of applications, including on-highway trucks (distribution, refuse, construction, fire and emergency), buses (primarily school and transit), motorhomes, off-highway vehicles and equipment (primarily energy and mining) and defense vehicles (wheeled and tracked). We estimate that globally, in 2012, we sold approximately 62% of all fully-automatic transmissions for medium and heavy-duty on-highway commercial vehicle applications, and we believe we are well-positioned to capitalize on attractive growth opportunities. We believe the Allison brand is one of the most recognized in our industry as a result of the performance, reliability and fuel efficiency of our transmissions and is associated with high quality, durability, vocational value, technological leadership and superior customer service. We believe our brand helps us maintain our leading market position and price our products commensurate with the value provided to the end user.

We introduced the world's first fully-automatic transmission for commercial vehicles over 60 years ago. Since that time, we have driven the trend in North America and Western Europe towards increasing automaticity by targeting a diverse range of commercial vehicle vocations. As compared to manual transmissions and automated manual transmissions, or AMTs, we believe the superior performance attributes of our fully-automatic transmissions in vocations with a high degree of start and stop activity, as well as in urban environments, include lower maintenance costs, reduced vehicle downtime, ease of operation, increased safety and improved driver and passenger comfort. We believe our transmissions offer increased fuel efficiency and faster acceleration, resulting in lower operating costs and increased productivity when they are used in vehicles with duty cycles that require a high degree of start and stop activity. As a result of these attributes, our fully-automatic transmissions are the standard or exclusive transmission offered in the powertrain configuration of certain types of vehicles in North America, including school buses, fire and emergency vehicles, medium- and heavy-tactical U.S. defense vehicles and certain mining trucks. In applications where our transmission is offered as an alternative to a manual transmission or an AMT, such as distribution and refuse trucks, we believe end users frequently specify an Allison transmission when ordering a commercial vehicle, which can create pull-through demand for our products to our original equipment manufacturer customers. Our transmissions are also commonly used in various oil and natural gas drilling and extraction equipment where we believe our products' performance, reliability, equipment uptime and ease of operation are critical to end users.

Allison transmissions are optimized for the unique performance requirements of end users, which typically vary by vocation. Our products are highly engineered, requiring advanced manufacturing processes, and employ complex software algorithms for our transmission controls to maximize end user performance. We have developed over 100 different models that are used in more than 2,500 different vehicle configurations and are compatible with more than 500 combinations of engine brands, models and ratings (including diesel, gasoline, natural gas and other alternative fuels). In 2012, over 8,000 unique Allison-developed calibrations were used with our transmission control modules. We believe our scale, experience and culture of innovation reinforce our leading market position and provide us with a competitive advantage.

Table of Contents

Based on our market leadership, history of innovation, brand recognition and global presence, we believe we are well-positioned to capitalize on attractive growth opportunities globally. Our core North American on-highway market, which we define as Class 4-7 trucks, Class 8 straight trucks, buses (school, conventional transit, shuttle and coach) and motorhomes, is poised for continued recovery. According to America's Commercial Transportation Research, on-highway commercial vehicle production in North America (excluding transit and coach bus, and motorhome) is anticipated to experience a CAGR of 6% from 2012 to 2015, representing increases of 3%, 10% and 5% from 2012 to 2013, 2013 to 2014 and 2014 to 2015, respectively, although we cannot give assurance that such growth rates will materialize. In addition, we believe markets outside North America represent a major growth opportunity for us, as we estimate less than 5% of the medium and heavy-duty commercial vehicles sold outside North America in 2012 were equipped with fully-automatic transmissions, as compared to 74% in our core North American market as defined above. We intend to drive the rate of adoption of fully-automatic transmissions in commercial vehicles globally by pursuing the same vocational strategy we employ in North America, though we cannot provide assurances that our business strategies will be successful or that fully-automatic transmissions will be increasingly adopted outside North America. Our anticipated growth outside of North America will be facilitated by our established international operations and customer relationships. For example, we are the leading provider of fully-automatic transmissions for medium- and heavy-duty commercial vehicles in China with a substantial installed base of over 45,000 Allison transmissions. In addition, in response to the evolving global focus on fuel consumption, we are developing new products to improve fuel efficiency without compromising performance.

We were formerly known as Allison Transmission, or the Predecessor, an operating unit of General Motors Corporation, which, in the course of its bankruptcy proceeding was renamed Motors Liquidation Company, or Old GM. On August 7, 2007, substantially all of the assets and liabilities of the Predecessor were acquired by us, under an Asset Purchase Agreement dated June 28, 2007, or the Asset Purchase Agreement, and entered into between Clutch Operating Company, Inc., a Delaware corporation owned by the Sponsors, and Old GM, the direct parent of the Predecessor, pursuant to which we acquired certain equity interests of, and certain assets and liabilities held by, direct and indirect operating subsidiaries of Old GM, or the Acquisition Transaction. After completion of the Acquisition Transaction, Clutch Holdings, Inc., changed its name to Allison Transmission Holdings, Inc. and Clutch Operating Company, Inc. changed its name to Allison Transmission, Inc.

On July 10, 2009, General Motors Company, or GM, emerged from bankruptcy. On August 3, 2009, we finalized an agreement with GM pursuant to which GM assumed certain contracts and agreements between us and Old GM, including among others, the Asset Purchase Agreement, certain intellectual property and software license agreements, lease agreements, engineering services agreements, proving grounds use agreements, an employee matters agreement, a contract manufacturing agreement and a hybrid co-branding agreement. GM also assumed certain other commercial contracts, arrangements and purchase orders with us in connection with conducting its business.

Allison Transmission Holdings, Inc. was incorporated in Delaware on June 22, 2007. Our principal executive offices are located at One Allison Way, Indianapolis, IN 46222 and our telephone number is (317) 242-5000. Our internet address is www.allisontransmission.com. The contents of our website are not part of this prospectus.

Table of Contents

The Offering

Common stock offered by the selling stockholders	12,500,000 shares
Common stock to be outstanding after this offering	183,050,410 shares ⁽¹⁾
Selling stockholders	The selling stockholders in this offering are affiliates of Carlyle and affiliates of Onex. See Selling Stockholders.
Use of Proceeds	We will not receive any proceeds from the sale of any shares of our common stock offered by the selling stockholders.
Risk Factors	See Risk Factors on page S-5 of this prospectus supplement and other information included in or incorporated by reference in this prospectus supplement and the accompanying prospectus, including the section entitled Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2012, as supplemented by our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2013, June 30, 2013 and September 30, 2013, for a discussion of factors you should carefully consider before deciding to invest in our common stock.
NYSE symbol	ALSN

- (1) The number of shares of our common stock outstanding as of December 5, 2013, which (i) includes 12,500,000 shares to be sold by the selling stockholders and (ii) excludes 9,709,367 shares of common stock issuable upon the exercise of options outstanding at a weighted average exercise price of \$15.25 per share and 13,843,796 shares of common stock reserved for issuance under our 2011 Equity Incentive Award Plan.

Table of Contents

RISK FACTORS

Investment in our common stock involves risks. You should carefully consider the risks and uncertainties described in this prospectus supplement, the prospectus and the documents incorporated by reference herein or therein, including risk factors described in our most recent Annual Report on Form 10-K for the year ended December 31, 2012 and in our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2013, June 30, 2013 and September 30, 2013 or Current Reports on Form 8-K we file after the date of this prospectus supplement, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended (the Exchange Act). The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

Risks Relating to this Offering and Our Common Stock

Upon the sale of a sufficient number of shares by the selling stockholders in this offering, we would no longer be a controlled company, and we may have difficulties complying with NYSE rules relating to the composition of our board of directors.

Our common stock is listed on the NYSE. As a controlled company under NYSE rules, we have not been subject to a number of corporate governance rules relating to composition of our board of directors and certain committees. Upon the sale of a sufficient number of shares by the selling stockholders in this offering, we would no longer be a controlled company and, in accordance with NYSE rules, would have to phase into compliance with certain requirements from which we are now exempt, including:

the requirement that a majority of the board of directors consist of independent directors;

the requirement that we have a nominating and corporate governance committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities;

the requirement that we have a compensation committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities; and

the requirement for an annual performance evaluation of the nominating and corporate governance and compensation committees. We intend to comply with these NYSE rules if we cease to be a controlled company. We may not be able to attract and retain the number of independent directors needed to comply with NYSE rules during the phase-in period for compliance.

This offering will result in a substantial amount of previously unregistered shares of our common stock being registered, which may depress the market price of our common stock.

Of the 183,050,410 shares of our common stock issued and outstanding as of December 5, 2013, approximately 61.1% were held by the Sponsors. The remainder of our shares of issued and outstanding common stock are freely tradable on the New York Stock Exchange without restriction or further registration under the Securities Act of 1933, as amended (the Securities Act), unless purchased by our affiliates as that term is defined in Rule 144 under the Securities Act. The shares of common stock being sold in this offering were not freely tradable on the New York Stock Exchange prior to the completion of this offering and the sale by the selling stockholders of the shares of common stock in this offering will increase the number of shares of our common stock eligible to be traded on the New York Stock Exchange, which could depress the market price of our common stock.

Table of Contents

Sales of substantial amounts of our common stock, or the possibility of such sales, may adversely affect the price of our common stock.

Sales of substantial amounts of our common stock in the public market after this offering, or the perception that such sales will occur, could adversely affect the market price of our common stock and make it difficult for us to raise funds through securities offerings in the future. As of December 5, 2013, there were 183,050,410 shares of our common stock issued and outstanding, of which all of the 68,820,000 shares sold in registered offerings prior to this offering and the 12,500,000 shares to be sold in this offering will be freely transferable without restriction or further registration under the Securities Act, unless acquired by our affiliates as that term is defined in Rule 144 under the Securities Act.

In addition, all shares of common stock acquired upon exercise of stock options and other equity-based awards granted under our stock incentive plans will also be freely tradable under the Securities Act unless acquired by our affiliates. A maximum of 30.2 million shares of common stock are reserved for issuance under our stock incentive plans, some of which have been issued as of the date of this prospectus supplement. The remaining shares of common stock outstanding will be restricted securities within the meaning of Rule 144 under the Securities Act, but will be eligible for resale subject to applicable volume, manner of sale, holding period and other limitations of Rule 144 or pursuant to an exemption from registration under Rule 701 under the Securities Act.

We, our directors and certain of our executive officers and each of the Sponsors that currently owns shares of our common stock have agreed to a lock-up, meaning that, subject to certain exceptions, including the sale of shares pursuant to plans that satisfy the requirements of Rule 10b5-1(c)(1) under the Exchange Act, neither we nor they will sell any shares without the prior consent of the underwriter before February 7, 2014. The underwriter may, in its sole discretion, release all or some portion of the shares subject to the lock-up agreements prior to expiration of such period. Following the expiration of this 60-day lock-up period, all of these shares of our common stock will be eligible for future sale, subject to the applicable volume, manner of sale, holding period and other limitations of Rule 144. In addition, the Sponsors have the right under certain circumstances to require that we register their remaining shares for resale. As of the date of this prospectus supplement, these registration rights apply to the approximately 99,392,499 shares of our outstanding common stock owned by the investment funds affiliated with or designated by the Sponsors that are not being sold in this offering. See the section entitled Description of Capital Stock Amended and Restated Stockholders Agreement in the accompanying prospectus for a description of the shares of common stock that may be sold into the public market in the future.

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

This prospectus supplement and any accompanying prospectus include and incorporate forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. The words believes, anticipates, plans, expects, should and similar expressions are intended to identify forward-looking statements. Important factors that could cause actual results to differ materially from the forward-looking statements include, without limitation:

risks related to our substantial indebtedness;

our participation in markets that are competitive;

the highly cyclical industries in which certain of our end users operate;

the failure of markets outside North America to increase adoption of fully-automatic transmissions;

the concentration of our net sales in our top five customers and the loss of any one of these;

future reductions or changes in government subsidies for hybrid vehicles, U.S. defense spending;

general economic and industry conditions;

the discovery of defects in our products, resulting in delays in new model launches, recall campaigns and/or increased warranty costs and reduction in future sales or damage to our brand and reputation;

our ability to prepare for, respond to and successfully achieve our objectives relating to technological and market developments and changing customer needs;

risks associated with our international operations; and

labor strikes, work stoppages or similar labor disputes, which could significantly disrupt our operations or those of our principal customers.

In addition, important factors included or incorporated in this prospectus supplement and any accompanying prospectus, particularly under the heading Risk Factors, among others, could cause actual results to differ materially from those indicated by forward-looking statements made herein and presented elsewhere by management from time to time. We do not undertake an obligation to update any forward-looking statements to reflect future events or circumstances.

Table of Contents

USE OF PROCEEDS

All shares of our common stock offered by this prospectus supplement will be sold by the selling stockholders. We will not receive any proceeds from the sale of these shares.

S-8

Table of Contents**SELLING STOCKHOLDERS**

The following table presents information concerning the beneficial ownership of the shares of our common stock by the selling stockholders assuming 183,049,225 shares of common stock and 1,185 shares of our non-voting common stock were issued and outstanding as of December 5, 2013, which includes 12,500,000 shares to be sold by the selling stockholders in connection with this offering.

The information in the table below with respect to each selling stockholder has been obtained from such selling stockholder. When we refer to the selling stockholders in this prospectus supplement, we mean the selling stockholders listed in the table below as offering shares, as well as their respective pledgees, donees, assignees, transferees and successors and others who may hold any of such selling stockholder's interest. The selling stockholders may be deemed to be underwriters within the meaning of the Securities Act.

Name of Selling Stockholder	Shares Beneficially Owned Prior to this Offering		Shares to be Sold in this Offering	Shares Beneficially Owned After this Offering	
	Number	Percent		Number	Percent
TC Group IV Managing GP, L.L.C.(1)	55,946,250	30.6%	6,250,000	49,696,250	27.1%
Onex Corporation(2)	55,946,249	30.6	6,250,000	49,696,249	27.1

- (1) Prior to the transactions reported herein, Carlyle Partners IV AT Holdings, L.P. is the record holder of these shares of our common stock. Carlyle Group Management L.L.C. is the general partner of The Carlyle Group L.P., which is a publicly traded entity listed on NASDAQ. The Carlyle Group L.P. is the sole shareholder of Carlyle Holdings I GP Inc., which is the managing member of Carlyle Holdings I GP Sub L.L.C., which is the general partner of Carlyle Holdings I L.P., which is the managing member of TC Group, L.L.C., which is the managing member of TC Group IV Managing GP, L.L.C., which is the general partner of Carlyle Partners IV AT Holdings, L.P. Accordingly, each of the foregoing entities may be deemed to share beneficial ownership of the shares of common stock owned of record by Carlyle Partners IV AT Holdings, L.P. The principal address of each of the foregoing entities is c/o The Carlyle Group, 1001 Pennsylvania Avenue, N.W., Suite 220 South, Washington, D.C. 20004-2505.
- (2) Prior to the transactions reported herein, Onex Partners II LP is the record holder of 25,292,796 shares of common stock; Onex Allison Holding Limited S.à r.l. is the record holder of 17,004,172 shares of common stock; Onex Allison Co-Invest LP is the record holder of 11,922,970 shares of common stock; Onex US Principals LP is the record holder of 476,490 shares of common stock; and Onex Partners II GP LP is the record holder of 237,725 shares of common stock. The address for Onex Corporation is 161 Bay Street, Toronto, ON M5J 2S1.

Onex Corporation may be deemed to beneficially own the common stock held by (a) Onex Partners II LP, through Onex Corporation's ownership of all of the common stock of Onex Partners GP Inc., the general partner of Onex Partners II GP LP, the general partner of Onex Partners II LP; (b) Onex Allison Holding Limited S. à r.l., through Onex Corporation's ownership of all of the equity of Onex American Holdings II LLC, which owns all of the equity of each of Allison Executive Investco LLC, which owns all of the equity of Allison Executive Investco II LLC, and Onex American Holdings Subco LLC, which owns all of the equity of OAH Wind LLC, which OAH Wind LLC and Allison Executive Investco II LLC own all of the equity of Onex Allison Holding Limited S. à r.l.; (c) Onex Allison Co-Invest LP, through Onex Corporation's ownership of all of the common stock of Onex Partners GP Inc., the general partner of Onex Partners II GP LP, the general partner of Onex Allison Co-Invest LP; (d) Onex US Principals LP, through Onex Corporation's ownership of all of the equity of Onex American Holdings II LLC, which owns all of the equity of Onex American Holdings GP LLC, the general partner of Onex US Principals LP; and (e) Onex Partners II GP LP, through Onex Corporation's ownership of all of the common stock of Onex Partners GP Inc., the general partner of Onex Partners II GP LP.

New PCo II Investments Ltd. is the record holder of 1,010,911 shares of common stock and 1,185 shares of non-voting common stock. 1597257 Ontario Inc., the sole shareholder of New PCo II Investments Ltd., is an

Table of Contents

independent entity that is controlled by Mr. Gerald W. Schwartz. Mr. Schwartz, the Chairman, President and Chief Executive Officer of Onex Corporation, owns shares representing a majority of the voting rights of the shares of Onex Corporation and as such may be deemed to beneficially own all of the common stock owned beneficially by Onex Corporation. Mr. Schwartz disclaims any such beneficial ownership. Mr. Schwartz has indirect voting and investment control of Onex Corporation.

S-10

Table of Contents

MATERIAL U.S. FEDERAL TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following discussion is a summary of the material U.S. federal income tax consequences to non-U.S. holders (as defined below) of the purchase, ownership and disposition of our common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or foreign tax laws are not discussed. This discussion is based on the Internal Revenue Code of 1986, as amended (the Code), Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service (IRS) in effect as of the date of this offering. These authorities may change or be subject to differing interpretations. Any such change may be applied retroactively in a manner that could adversely affect a non-U.S. holder of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position regarding the tax consequences of the purchase, ownership and disposition of our common stock. In addition, this discussion does not address the tax consequences to the Sponsors of the ownership and disposition of our common stock.

This discussion is limited to non-U.S. holders that hold our common stock as a capital asset within the meaning of Section 1221 of the Code (property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a non-U.S. holder's particular circumstances, including the impact of the unearned income Medicare contribution tax. In addition, it does not address consequences relevant to non-U.S. holders subject to particular rules, including, without limitation:

U.S. expatriates and certain former citizens or long-term residents of the United States;

persons subject to the alternative minimum tax;

persons holding our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;

banks, insurance companies, and other financial institutions;

real estate investment trusts or regulated investment companies;

brokers, dealers or traders in securities;

controlled foreign corporations, passive foreign investment companies, and corporations that accumulate earnings to avoid U.S. federal income tax;

S corporations, partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes;

tax-exempt organizations or governmental organizations;

persons deemed to sell our common stock under the constructive sale provisions of the Code;

Edgar Filing: Allison Transmission Holdings Inc - Form 424B3

persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
and

tax-qualified retirement plans.

If a partnership (or other entity treated as a partnership for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS FOR INFORMATION PURPOSES ONLY AND IS NOT INTENDED AS TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND

S-11

Table of Contents

DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of a Non-U.S. Holder

For purposes of this discussion, a non-U.S. holder is any beneficial owner of our common stock that is neither a U.S. person nor a partnership for U.S. federal income tax purposes. A U.S. person is any of the following:

an individual who is a citizen or resident of the United States;

a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) created or organized under the laws of the United States, any state thereof, or the District of Columbia;

an estate, the income of which is subject to U.S. federal income tax regardless of its source; or

a trust that (1) is subject to the primary supervision of a U.S. court and the control of one or more United States persons (within the meaning of Section 7701(a)(30) of the Code), or (2) has made a valid election under applicable Treasury Regulations to continue to be treated as a United States person.

Distributions

Cash or other property distributions on our common stock generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a non-U.S. holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our common stock.

Subject to the discussion below on backup withholding and foreign accounts, dividends paid to a non-U.S. holder of our common stock that are not effectively connected with the non-U.S. holder's conduct of a trade or business within the United States will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty).

Non-U.S. holders will be entitled to a reduction in or an exemption from withholding on dividends as a result of either (a) an applicable income tax treaty or (b) the non-U.S. holder holding our common stock in connection with the conduct of a trade or business within the United States and dividends being paid in connection with that trade or business. To claim such a reduction in or exemption from withholding, the non-U.S. holder must provide the applicable withholding agent with a properly executed (a) IRS Form W-8BEN claiming an exemption from or reduction of the withholding tax under the benefit of an income tax treaty between the United States and the country in which the non-U.S. holder resides or is established, or (b) IRS Form W-8ECI stating that the dividends are not subject to withholding tax because they are effectively connected with the conduct by the non-U.S. holder of a trade or business within the United States, as may be applicable. These certifications must be provided to the applicable withholding agent prior to the payment of dividends and must be updated periodically. Non-U.S. holders that do not timely provide the applicable withholding agent with the required certification, but that qualify for a reduced rate under an applicable income tax treaty, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

Subject to the discussion below on backup withholding and foreign accounts, if dividends paid to a non-U.S. holder are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such dividends are attributable), then, although exempt from U.S. federal withholding tax (provided the non-U.S. holder provides appropriate certification, as described

Table of Contents

above), the non-U.S. holder will be subject to U.S. federal income tax on such dividends on a net income basis in the same manner as a U.S. person. In addition, a non-U.S. holder that is a corporation may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on its effectively connected earnings and profits for the taxable year that are attributable to such dividends, as adjusted for certain items. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

Sale or Other Taxable Disposition

Subject to the discussions below on backup withholding and foreign accounts, a non-U.S. holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other disposition of our common stock unless:

the gain is effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such gain is attributable);

the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or

our common stock constitutes a U.S. real property interest ("USRPI") by reason of our status as a U.S. real property holding corporation (a "USRPHC") for U.S. federal income tax purposes.

Gain described in the first bullet point above will generally be subject to U.S. federal income tax on a net income basis in the same manner as a U.S. person. A non-U.S. holder that is a foreign corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) of a portion of its effectively connected earnings and profits for the taxable year, as adjusted for certain items.

A non-U.S. holder described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on any gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder (even though the individual is not considered a resident of the United States). Such a non-U.S. holder generally will be required to file a U.S. federal income tax return with respect to such gains and losses.

With respect to the third bullet point above, we believe we are not currently and do not anticipate becoming a USRPHC. Because the determination of whether we are a USRPHC depends on the fair market value of our USRPIs relative to the fair market value of our other business assets and our non-U.S. real property interests, however, there can be no assurance we are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a non-U.S. holder of our common stock will not be subject to U.S. federal income tax if such class of stock is regularly traded, as defined by applicable Treasury Regulations, on an established securities market, and such non-U.S. holder owned, actually or constructively, 5% or less of such class of our stock throughout the shorter of the five-year period ending on the date of the sale or other disposition or the non-U.S. holder's holding period for such stock.

Non-U.S. holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

A non-U.S. holder will not be subject to backup withholding with respect to payments of dividends on our common stock we make to the non-U.S. holder, provided the applicable withholding agent does not have actual knowledge or reason to know such holder is a United States person and the holder certifies its non-U.S. status, such as by providing a valid IRS Form W-8BEN or W-8ECI, or other applicable certification. However,

Table of Contents

information returns will be filed with the IRS in connection with any dividends on our common stock paid to the non-U.S. holder, regardless of whether any tax was actually withheld. Copies of these information returns may also be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides or is established.

Information reporting and backup withholding may apply to the proceeds of a sale of our common stock within the United States, and information reporting may (although backup withholding generally will not) apply to the proceeds of a sale of our common stock outside the United States conducted through certain U.S.-related financial intermediaries, in each case, unless the beneficial owner certifies under penalty of perjury that it is a non-U.S. holder on IRS Form W-8BEN or other applicable form (and the payor does not have actual knowledge or reason to know that the beneficial owner is a United States person) or such owner otherwise establishes an exemption.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under the Code provisions commonly known as the Foreign Account Tax Compliance Act (FATCA) on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, or gross proceeds from the sale or other disposition of, our common stock paid to a foreign financial institution or a non-financial foreign entity (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any substantial United States owners (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain specified United States persons or United States-owned foreign entities (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and recently issued guidance, withholding under FATCA generally will apply to payments of dividends on our common stock made on or after July 1, 2014 and to payments of gross proceeds from the sale or other disposition of such stock on or after January 1, 2017.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.

Table of Contents

UNDERWRITING

Credit Suisse Securities (USA) LLC is acting as the sole book-running manager of this offering. Subject to the terms and conditions set forth in an underwriting agreement among us, the selling stockholders and the underwriter, the selling stockholders have agreed to sell to the underwriter, and the underwriter has agreed to purchase from the selling stockholders the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
Credit Suisse Securities (USA) LLC	12,500,000

Subject to the terms and conditions set forth in the underwriting agreement, the underwriter has agreed to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased.

We and the selling stockholders have agreed to indemnify the underwriter against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriter may be required to make in respect of those liabilities.

The underwriter is offering the shares, subject to prior sale, when, as and if issued to and accepted by it, subject to approval of legal matters by its counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriter of officers' certificates and legal opinions. The underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

The shares may be offered by the underwriter from time to time to purchasers directly or through agents, or through brokers in brokerage transaction on the New York Stock Exchange, or to dealers in negotiated transactions or in a combination of such methods of sale, at a fixed price or prices, which may be changed, or at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices.

The Sponsors have retained Solebury Capital LLC ("Solebury"), a Financial Industry Regulatory Authority, or FINRA, member, to provide certain financial consulting services (which do not include underwriting services) in connection with this offering. The Sponsors have agreed to pay Solebury, only upon successful completion of this offering, a fee of \$200,000. Solebury's services include advice with respect to selection of the underwriter for this offering, deal structuring, fee and economics recommendations, distribution strategy recommendations and preparation of presentation materials. Solebury is not acting as an underwriter and has no contact with any public or institutional investor on behalf of us or the underwriter. In addition, Solebury will not underwrite or purchase any of our common stock in this offering or otherwise participate in any such undertaking.

The expenses of the offering, including expenses incurred by the selling stockholders but not including the underwriting discount, are estimated at \$421,500 and are payable by us.

We, our directors, certain of our executive officers and each of the Sponsors that currently own shares of our common stock, have agreed, subject to certain exceptions, including the sale of shares pursuant to plans that satisfy the requirements of Rule 10b5-1(c)(1) under the Exchange Act, not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 60 days after the date of this prospectus without first obtaining the written consent of the underwriter. The underwriter may, in its sole discretion, release all or some portion of the shares subject to the lock-up agreements prior to expiration of such period. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

offer, pledge, sell or contract to sell any common stock,

Table of Contents

sell any option or contract to purchase any common stock,

purchase any option or contract to sell any common stock,

grant any option, right or warrant for the sale of any common stock,

lend or otherwise dispose of or transfer any common stock,

request or demand that we file a registration statement related to the common stock, or

enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition. In the event that the underwriter is unable to publish or distribute research reports on us pursuant to Rule 139 under the Securities Act, and either (x) during the last 17 days of the lock-up period referred to above, we issue an earnings release or material news or a material event relating to us occurs or (y) prior to the expiration of the lock-up period, we announce that we will release earnings results or become aware that material news or a material event will occur during the 16-day period beginning on the last day of the lock-up period, the restrictions described above shall continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event.

The shares of common stock are listed on the NYSE under the symbol ALSN.

Until the distribution of the shares is completed, SEC rules may limit the underwriter and selling group members from bidding for and purchasing our common stock. However, the underwriter may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriter may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriter of a greater number of shares than they are required to purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriter in the open market prior to the completion of the offering.

Similar to other purchase transactions, the underwriter's purchases to cover sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriter may conduct these transactions on the NYSE, in the over-the-counter market or otherwise.

Neither we nor the underwriter make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor the underwriter make any representation that the underwriter will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

In connection with the offering, the underwriter or securities dealers may distribute prospectuses by electronic means, such as e-mail. In addition, the underwriter may facilitate Internet distribution for this offering to certain of its Internet subscription customers. The underwriter may allocate a limited number of shares for sale to its online brokerage customers. An electronic prospectus is available on the Internet web site maintained by the underwriter. Other than the prospectus in electronic format, the information on the web site of the underwriter is not part of this prospectus.

Table of Contents

The underwriter and its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriter and its affiliates have, from time to time, performed, and may in the future perform, various financial advisory, investment banking, commercial banking and other services for us and the selling stockholders for which they received or will receive customary fees and expenses. Furthermore, the underwriter and its affiliates may, from time to time, enter into arms-length transactions with us and the selling stockholders in the ordinary course of their business.

In the ordinary course of their various business activities, the underwriter and its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments of the issuer. The underwriter and its affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

In particular, the underwriter or its affiliates have acted as an underwriter or initial purchaser in our prior initial public offering and/or prior notes offerings and act as lenders and/or agents under our senior secured credit facility.

Notice to Prospective Investors in the European Economic Area

In relation to each Members State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), including each Relevant Member State that has implemented the 2010 PD Amending Directive with regard to persons to whom an offer of securities is addressed and the denomination per unit of the offer of securities (each, an Early Implementing Member State), with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the Relevant Implementation Date), no offer of shares will be made to the public in that Relevant Member State (other than offers (the Permitted Public Offers) where a prospectus will be published in relation to the shares that has been approved by the competent authority in a Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Directive), except that with effect from and including that Relevant Implementation Date, offers of shares may be made to the public in that Relevant Member State at any time:

- A. to legal entities which are qualified investors as defined in the Prospectus Directive;
- B. to fewer than 100 (or, in the case of Early Implementing Member States, 150) natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted in the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or
- C. in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of shares shall result in a requirement for the publication of a prospectus pursuant to Article 3 of the Prospectus Directive or of a supplement to a prospectus pursuant to Article 16 of the Prospectus Directive.

For the purpose of the above provisions, the expression an offer to the public in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer of any shares to be offered so as to enable an investor to decide to purchase any shares, as the same may be varied in the Relevant Member State by any measure implementing the Prospectus Directive in the Relevant Member State and the expression Prospectus Directive means Directive 2003/71 EC (including the 2010 PD Amending Directive, in the case of Early Implementing Member States) and includes any relevant implementing measure in each Relevant Member State and the expression 2010 PD Amending Directive means Directive 2010/73/EU.

Table of Contents

This EEA selling restriction is in addition to any other selling restrictions set out in this Prospectus supplement.

Each person in a Relevant Member State (other than a Relevant Member State where there is a Permitted Public Offer) who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed that (A) it is a qualified investor, and (B) in the case of any shares acquired by it as a financial intermediary, as that term is used in Article 3(2) of the Prospectus Directive, (x) the shares acquired by

it in the offering have not been acquired on behalf of, nor have they been acquired with a view to their offer or resale to, persons in any Relevant Member State other than qualified investors as defined in the Prospectus Directive, or in circumstances in which the prior consent of the Subscribers has been given to the offer or resale, or (y) where shares have been acquired by it on behalf of persons in any Relevant Member State other than qualified investors as defined in the Prospectus Directive, the offer of those shares to it is not treated under the Prospectus Directive as having been made to such persons.

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are qualified investors (as defined in the Prospectus Directive) (i) who have professional experience in matters relating to investments falling within Article 19 (5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the Order) and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as relevant persons). This document must not be acted on or relied on in the United Kingdom by persons who are not relevant persons. In the United Kingdom, any investment or investment activity to which this document relates is only available to, and will be engaged in with, relevant persons.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (SIX) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the Shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This document relates to an exempt offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority (DFSA). This document is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with exempt offers. The DFSA has not approved this document nor taken steps to verify the information set forth herein and has no responsibility for it. The shares to which this document relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this document you should consult an authorized financial advisor.

Table of Contents

Notice to Prospective Investors in Hong Kong

This prospectus has not been approved by or registered with the Securities and Futures Commission of Hong Kong or the Registrar of Companies of Hong Kong.

The shares have not been and will not be offered or sold in Hong Kong by means of any document other than (a) to professional investors as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a prospectus as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance.

No advertisement, invitation or document relating to the shares which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) has been issued or will be issued or had been or have been in possession for the purposes of issue, whether in Hong Kong or elsewhere other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to professional investors as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Singapore

This prospectus has not been and will not be registered as a prospectus with the Monetary Authority of Singapore under the Securities and Futures Act (Chapter 289 of Singapore) (the SFA).

Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares have not been, will not and may not be circulated or distributed, and the shares have not been, will not and may not be offered or sold, and the shares have not been, will not and may not be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined in Section 4A of the SFA) under Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA; or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased in reliance of an exemption under Sections 274 or 275 of the SFA, the shares shall not be sold within the period of 6 months from the date of the initial acquisition of the shares, except to any of the following persons: (a) an institutional investor (as defined in Section 4A of the SFA); (b) a relevant person (as defined in Section 275(2) of the SFA); or (c) any person pursuant to an offer referred to in Section 275(1A) of the SFA, in each case, unless expressly specified otherwise in Section 276(7) of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is: (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of which is an individual who is an accredited investor, then securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (however described) in that trust shall not be transferred within 6 months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 except: (i) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), or (in the case of such corporation) where the transfer arises from an offer referred to in Section 276(3)(i)(B) of the SFA or (in the case of such trust) where the transfer arises from an offer referred to in Section 276(4)(i)(B) of the SFA; (ii) where no consideration is or will be given for the transfer; (iii) where the transfer is by operation of law; or (iv) as specified in Section 276(7) of the SFA.

Table of Contents

Notice to Prospective Investors in Japan

The shares offered in this prospectus have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, have not been and will not be offered or sold, directly or indirectly, in Japan, or to or for the account of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except (i) pursuant to an exemption from the registration requirements of the Financial Instruments and Exchange Law; and (ii) in compliance with any other applicable requirements of Japanese laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, Japanese Person shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Chile

The shares are not registered in the Securities Registry (Registro de Valores) or subject to the control of the Chilean Securities and Exchange Commission (Superintendencia de Valores y Seguros de Chile). This prospectus and other offering materials relating to the offer of the shares do not constitute a public offer of, or an invitation to subscribe for or purchase, the shares in the Republic of Chile, other than to individually identified purchasers pursuant to a private offering within the meaning of Article 4 of the Chilean Securities Market Act (Ley de Mercado de Valores) (an offer that is not addressed to the public at large or to a certain sector or specific group of the public).

S-20

Table of Contents

LEGAL MATTERS

The validity of the common stock being offered by this prospectus supplement will be passed upon for us by Latham & Watkins LLP, Washington, District of Columbia. Certain legal matters relating to this offering will be passed upon for the underwriter by Cleary Gottlieb Steen & Hamilton LLP, New York, New York.

EXPERTS

The financial statements incorporated in this prospectus supplement by reference to the Annual Report on Form 10-K for the year ended December 31, 2012 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

Available Information

We file reports, proxy statements and other information with the SEC. Information filed with the SEC by us can be inspected and copied at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of this information by mail from the Public Reference Room of the SEC at prescribed rates. Further information on the operation of the SEC's Public Reference Room in Washington, D.C. can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains a web site that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is <http://www.sec.gov>.

These periodic and current reports and all amendments to those reports are also available free of charge on the investor relations page of our website at <http://ir.allisontransmission.com>. We have included our website address throughout this filing as textual references only. The information on our web site, however, is not, and should not be deemed to be, a part of this prospectus supplement.

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of the documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement. Statements in this prospectus supplement or the accompanying prospectus about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C. or through the SEC's website, as provided above.

Table of Contents

INCORPORATION BY REFERENCE

The SEC's rules allow us to incorporate by reference information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus supplement, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement modifies or replaces that statement.

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, between the date of this prospectus supplement and the termination of this offering. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed filed with the SEC, including our Compensation Committee report, the Report of the Audit Committee and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

This prospectus supplement and the accompanying prospectus incorporate by reference the documents set forth below that have previously been filed with the SEC:

Our Annual Report on Form 10-K for the year ended December 31, 2012, filed with the SEC on February 28, 2013.

Our Definitive Proxy Statement on Schedule 14A, filed with the SEC on March 28, 2013.

Our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2013, filed with the SEC on April 30, 2013, June 30, 2013, filed with the SEC on July 30, 2013 and September 30, 2013, filed with the SEC on October 29, 2013;

Our Current Reports on Form 8-K, filed with the SEC on February 6, 2013, February 14, 2013, May 14, 2013, August 12, 2013, August 26, 2013, November 13, 2013 and December 10, 2013;

The description of our Common Stock contained in our registration statement on Form 8-A, filed with the SEC on March 12, 2012 (File No. 001-35456) and any amendment or report filed with the SEC for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus supplement and deemed to be part of this prospectus supplement from the date of the filing of such reports and documents.

You may obtain any of the documents incorporated by reference in this prospectus supplement on the SEC's website at www.sec.gov or request a copy of any or all of the documents referred to above which have been incorporated by reference (other than exhibits, unless they are specifically incorporated by reference in the documents) at no cost to the requester by writing or telephoning us at the following address:

Allison Transmission Holdings, Inc.

One Allison Way

Indianapolis, IN 46222

(317) 242-5000

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus supplement or the accompanying prospectus.

Table of Contents

PROSPECTUS

Allison Transmission Holdings, Inc.

Common Stock

The selling stockholders to be named in a prospectus supplement may offer and sell shares of our common stock from time to time in amounts, at prices and on terms that will be determined at the time of the offering.

This prospectus describes the general manner in which the shares of our common stock may be offered and sold by the selling stockholders. The specific manner in which shares of common stock may be offered and sold will be described in a supplement to this prospectus. Information about the selling stockholders, including the relationship between the selling stockholders and us, will also be included in the applicable prospectus supplement.

Selling stockholders that are affiliates of Allison Transmission Holdings, Inc. may be deemed to be underwriters within the meaning of the Securities Act of 1933, as amended (the Securities Act), and, as a result, may be deemed to be offering securities, indirectly, on our behalf.

You should carefully read this prospectus and any accompanying prospectus supplement, together with the documents we incorporate by reference, before you invest in our common stock.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE RISK FACTORS ON PAGE 6 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Our common stock is listed on the New York Stock Exchange (NYSE) under the symbol ALSN. On April 12, 2013, the last reported sale price of our common stock on the NYSE was \$23.79 per share.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is April 15, 2013.

Table of Contents

TABLE OF CONTENTS

<u>ABOUT THIS PROSPECTUS</u>	1
<u>CERTAIN TRADEMARKS</u>	1
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	2
<u>INCORPORATION BY REFERENCE</u>	2
<u>THE COMPANY</u>	4
<u>RISK FACTORS</u>	6
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION</u>	7
<u>USE OF PROCEEDS</u>	8
<u>PLAN OF DISTRIBUTION</u>	9
<u>DESCRIPTION OF CAPITAL STOCK</u>	11
<u>LEGAL MATTERS</u>	15
<u>EXPERTS</u>	15

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission (SEC), as a well-known seasoned issuer as defined in Rule 405 under the Securities Act, using a shelf registration process. By using a shelf registration statement, the selling stockholders to be named in a supplement to this prospectus may, from time to time, sell common stock in one or more offerings. Each time that the selling stockholders sell securities, we will provide a prospectus supplement to this prospectus that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the headings Where You Can Find More Information and Incorporation by Reference.

We are responsible for the information contained or incorporated by reference in this prospectus, any accompanying prospectus supplement and in any related free-writing prospectus we prepare or authorize. Neither we nor the selling stockholders have authorized anyone to give you any other information, and we take no responsibility for any other information that others may give you. We and the selling stockholders will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates.

Unless otherwise noted in this prospectus, the term Allison Holdings means Allison Transmission Holdings, Inc. When we refer to Allison, we, our, us and the Company in this prospectus, we mean Allison Transmission Holdings, Inc. and its consolidated subsidiaries, unless otherwise specified.

CERTAIN TRADEMARKS

This prospectus includes trademarks, such as Allison Transmission and ReTran, which are protected under applicable intellectual property laws and are our property and/or the property of our subsidiaries. This prospectus also contains trademarks, service marks, copyrights and trade names of other companies, which are the property of their respective owners. We do not intend our use or display of other companies trademarks, service marks, copyrights or trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies. Solely for convenience, our trademarks and tradenames referred to in this prospectus may appear without the ® or symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable licensor to these trademarks and tradenames.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

Available Information

We file reports, proxy statements and other information with the SEC. Information filed with the SEC by us can be inspected and copied at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of this information by mail from the Public Reference Room of the SEC at prescribed rates. Further information on the operation of the SEC's Public Reference Room in Washington, D.C. can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains a web site that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is <http://www.sec.gov>.

These periodic and current reports and all amendments to those reports are also available free of charge on the investor relations page of our website at <http://ir.allisontransmission.com>. We have included our website address throughout this filing as textual references only. The information on our web site, however, is not, and should not be deemed to be, a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of the documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C. or through the SEC's website, as provided above.

INCORPORATION BY REFERENCE

The SEC's rules allow us to incorporate by reference information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus modifies or replaces that statement.

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), between the date of this prospectus and the termination of the offering of the securities described in this prospectus. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed filed with the SEC, including our Compensation Committee report, the Report of the Audit Committee and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

Our Annual Report on Form 10-K for the year ended December 31, 2012, filed with the SEC on February 28, 2013.

Our Definitive Proxy Statement on Schedule 14A, filed with the SEC on March 28, 2013.

Table of Contents

Our Current Reports on Form 8-K, filed with the SEC on February 6, 2013 and February 14, 2013.

The description of our common stock contained in our registration statement on Form 8-A, filed with the SEC on March 12, 2012 (File No. 001-35456) and any amendment or report filed with the SEC for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may obtain any of the documents incorporated by reference in this prospectus on the SEC's website at www.sec.gov or request a copy of any or all of the documents referred to above which have been incorporated by reference (other than exhibits, unless they are specifically incorporated by reference in the documents) at no cost to the requester by writing or telephoning us at the following address:

Allison Transmission Holdings, Inc.

One Allison Way

Indianapolis, IN 46222

(317) 242-5000

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus and any accompanying prospectus supplement.

Table of Contents

THE COMPANY

We are the world's largest manufacturer of fully-automatic transmissions for medium- and heavy-duty commercial vehicles, medium- and heavy-tactical U.S. defense vehicles and hybrid-propulsion systems for transit buses. Allison transmissions are used in a wide variety of applications, including on-highway trucks (distribution, refuse, construction, fire and emergency), buses (primarily school and transit), motorhomes, off-highway vehicles and equipment (primarily energy and mining) and defense vehicles (wheeled and tracked). We estimate that globally, in 2012, we sold approximately 62% of all fully-automatic transmissions for medium- and heavy-duty on-highway commercial vehicle applications, and we believe we are well-positioned to capitalize on attractive growth opportunities. We believe the Allison brand is one of the most recognized in our industry as a result of the performance, reliability and fuel efficiency of our transmissions and is associated with high quality, durability, vocational value, technological leadership and superior customer service. We believe our brand helps us maintain our leading market position and price our products commensurate with the value provided to the end user.

We introduced the world's first fully-automatic transmission for commercial vehicles over 60 years ago. Since that time, we have driven the trend in North America and Western Europe towards increasing automaticity by targeting a diverse range of commercial vehicle vocations. As compared to manual transmissions and automated manual transmissions (AMTs), we believe the superior performance attributes of our fully-automatic transmissions in vocations with a high degree of start and stop activity, as well as in urban environments, include lower maintenance costs, reduced vehicle downtime, ease of operation, increased safety and improved driver and passenger comfort. We believe our transmissions offer increased fuel efficiency and faster acceleration, resulting in lower operating costs and increased productivity when they are used in vehicles with duty cycles that require a high degree of start and stop activity. As a result of these attributes, our fully-automatic transmissions are the standard or exclusive transmission offered in the powertrain configuration of certain types of vehicles in North America, including school buses, fire and emergency vehicles, medium- and heavy-tactical U.S. defense vehicles and certain mining trucks. In applications where our transmission is offered as an alternative to a manual transmission or an AMT, such as distribution and refuse trucks, we believe end users frequently specify an Allison transmission when ordering a commercial vehicle, which can create pull-through demand for our products to our original equipment manufacturer customers. Our transmissions are also commonly used in various oil and natural gas drilling and extraction equipment where we believe our products' performance, reliability, equipment uptime and ease of operation are critical to end users.

Allison transmissions are optimized for the unique performance requirements of end users, which typically vary by vocation. Our products are highly engineered, requiring advanced manufacturing processes, and employ complex software algorithms for our transmission controls to maximize end user performance. We have developed over 100 different models that are used in more than 2,500 different vehicle configurations and are compatible with more than 500 combinations of engine brands, models and ratings (including diesel, gasoline, natural gas and other alternative fuels). In 2012, over 8,000 unique Allison-developed calibrations were used with our transmission control modules. We believe our scale, experience and culture of innovation reinforce our leading market position and provide us with a competitive advantage.

Based on our market leadership, history of innovation, brand recognition and global presence, we believe we are well-positioned to capitalize on attractive growth opportunities globally. Our core North American on-highway market, which we define as Class 4-7 trucks, Class 8 straight trucks, buses (school, conventional transit, shuttle and coach) and motorhomes, is poised for continued recovery. According to America's Commercial Transportation Research, on-highway commercial vehicle production in North America (excluding transit and coach bus, and motorhome) is anticipated to experience a CAGR of 7% from 2012 to 2015, representing increases of 3%, 14% and 4% from 2012 to 2013, 2013 to 2014 and 2014 to 2015, respectively, although we cannot give assurance that such growth rates will materialize. In addition, we believe markets outside North America represent a major growth opportunity for us, as we estimate less than 5% of the medium- and heavy-duty commercial vehicles sold outside North America in 2012 were equipped with fully-automatic transmissions,

Table of Contents

as compared to 74% in our core North American market as defined above. We intend to drive the rate of adoption of fully-automatic transmissions in commercial vehicles globally by pursuing the same vocational strategy we employ in North America, though we cannot provide assurances that our business strategies will be successful or that fully-automatic transmissions will be increasingly adopted outside North America. Our anticipated growth outside of North America will be facilitated by our established international operations and customer relationships. For example, we are the leading provider of fully-automatic transmissions for medium- and heavy-duty commercial vehicles in China with a substantial installed base of over 45,000 Allison transmissions. In addition, in response to the evolving global focus on fuel consumption, we are developing new products to improve fuel efficiency without compromising performance.

We were formerly known as Allison Transmission (the Predecessor), an operating unit of General Motors Corporation, which, in the course of its bankruptcy proceeding was renamed Motors Liquidation Company (Old GM). On August 7, 2007, substantially all of the assets and liabilities of the Predecessor were acquired by us, under an Asset Purchase Agreement (the Asset Purchase Agreement) dated June 28, 2007 and entered into between Clutch Operating Company, Inc., a Delaware corporation owned by investment funds affiliated with The Carlyle Group (Carlyle) and Onex Corporation (Onex) and together with Carlyle, the Sponsors), and Old GM, the direct parent of the Predecessor, pursuant to which we acquired certain equity interests of, and certain assets and liabilities held by, direct and indirect operating subsidiaries of Old GM (the Acquisition Transaction). After completion of the Acquisition Transaction, Clutch Holdings, Inc., changed its name to Allison Transmission Holdings, Inc. and Clutch Operating Company, Inc. changed its name to Allison Transmission, Inc. (ATI).

On July 10, 2009, General Motors Company (GM) emerged from bankruptcy. On August 3, 2009, we finalized an agreement with GM pursuant to which GM assumed certain contracts and agreements between us and Old GM, including among others, the Asset Purchase Agreement, certain intellectual property and software license agreements, lease agreements, engineering services agreements, proving grounds use agreements, an employee matters agreement, a contract manufacturing agreement and a hybrid co-branding agreement. GM also assumed certain other commercial contracts, arrangements and purchase orders with us in connection with conducting its business.

Allison Transmission Holdings, Inc. was incorporated in Delaware on June 22, 2007. Our principal executive offices are located at One Allison Way, Indianapolis, IN 46222 and our telephone number is (317) 242-5000. Our internet address is www.allisontransmission.com. The contents of our website are not part of this prospectus.

Table of Contents

RISK FACTORS

Investment in our securities involves risks. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, as well as the risk factors and other information contained in the applicable prospectus supplement before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

This prospectus and any accompanying prospectus supplement include and incorporate forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. The words believes, anticipates, plans, expects, should and similar expressions are intended to identify forward-looking statements. Important factors that could cause actual results to differ materially from the forward-looking statements include, without limitation:

risks related to our substantial indebtedness;

our participation in markets that are competitive;

the highly cyclical industries in which certain of our end users operate;

the failure of markets outside North America to increase adoption of fully-automatic transmissions;

the concentration of our net sales in our top five customers and the loss of any one of these;

future reductions or changes in government subsidies for hybrid vehicles, U.S. defense spending;

general economic and industry conditions;

the discovery of defects in our products, resulting in delays in new model launches, recall campaigns and/or increased warranty costs and reduction in future sales or damage to our brand and reputation;

our ability to prepare for, respond to and successfully achieve our objectives relating to technological and market developments and changing customer needs;

risks associated with our international operations; and

labor strikes, work stoppages or similar labor disputes, which could significantly disrupt our operations or those of our principal customers.

In addition, important factors included or incorporated in this prospectus and any accompanying prospectus supplement, particularly under the heading Risk Factors, among others, could cause actual results to differ materially from those indicated by forward-looking statements made herein and presented elsewhere by management from time to time. We do not undertake an obligation to update any forward-looking statements to reflect future events or circumstances.

Table of Contents

USE OF PROCEEDS

We will not receive any proceeds from the sale of our common stock by any selling stockholders.

Table of Contents

PLAN OF DISTRIBUTION

The selling stockholders may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods or through underwriters or dealers, through agents and/or directly to one or more purchasers. The securities may be distributed from time to time in one or more transactions:

at a fixed price or prices, which may be changed from time to time;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

Each time that any of the selling stockholders sell securities covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms and conditions of the offering of such securities, including (i) the name or names of any underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them; (ii) if a fixed price offering, the public offering price of the securities and the proceeds to the selling stockholders; (iii) any options under which underwriters may purchase additional securities from the selling stockholders; (iv) any underwriting discounts or commissions or agency fees and other items constituting underwriters or agents compensation; (v) terms and conditions of the offering and (vi) any discounts, commissions or concessions allowed or reallocated or paid to dealers.

Offers to purchase the securities being offered by this prospectus may be solicited directly. Agents may also be designated to solicit offers to purchase the securities from time to time. Any agent involved in the offer or sale of our securities will be identified in a prospectus supplement.

If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, the selling stockholders, or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for which they may act as agent. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase securities as a principal, and may then resell the securities at varying prices to be determined by the dealer.

Any compensation paid to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers will be provided in the applicable prospectus supplement. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We and the selling stockholders may each or both enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof and to reimburse those persons for certain expenses.

Table of Contents

Our common stock is listed on the NYSE. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

If indicated in the applicable prospectus supplement, underwriters or other persons acting as agents may be authorized to solicit offers by institutions or other suitable purchasers to purchase the securities at the public offering price set forth in the prospectus supplement, pursuant to delayed delivery contracts providing for payment and delivery on the date or dates stated in the prospectus supplement. These purchasers may include, among others, commercial and savings banks, insurance companies, pension funds, investment companies and educational and charitable institutions. Delayed delivery contracts will be subject to the condition that the purchase of the securities covered by the delayed delivery contracts will not at the time of delivery be prohibited under the laws of any jurisdiction in the United States to which the purchaser is subject. The underwriters and agents will not have any responsibility with respect to the validity or performance of these contracts.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is not complete and may not contain all the information you should consider before investing in our capital stock. This description is summarized from, and qualified in its entirety by reference to, our certificate of incorporation, which has been publicly filed with the SEC. See [Where You Can Find More Information](#) and [Incorporation by Reference](#).

Our authorized capital stock consists of 1,880,000,000 shares of common stock, par value \$0.01 per share, 20,000,000 shares of non-voting common stock, par value \$0.01 per share and 100,000,000 shares of preferred stock, par value \$0.01 per share.

Common Stock

Holders of common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors, and do not have cumulative voting rights. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of common stock and non-voting common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by our Board of Directors out of funds legally available for dividend payments. ATI's senior secured credit facility (the Senior Secured Credit Facility) and the indenture governing ATI's senior cash pay notes due May 2019 (the Senior Notes) impose restrictions on our ability to declare dividends on our common stock. The holders of common stock have no preferences or rights of conversion, exchange, pre-emption or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. In the event of any liquidation, dissolution or winding-up of our affairs, holders of common stock and non-voting common stock will be entitled to share ratably in our assets that are remaining after payment or provision for payment of all of our debts and obligations and after liquidation payments to holders of outstanding shares of preferred stock, if any.

Non-voting Common Stock

Holders of our non-voting common stock are not entitled to a vote for any share held of record on any matter submitted to a vote of the stockholders, including the election of directors. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of non-voting common stock and common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by our Board of Directors out of funds legally available for dividend payments. The Senior Secured Credit Facility and the indenture governing the Senior Notes impose restrictions on our ability to declare dividends on our non-voting common stock. The holders of non-voting common stock have no preferences or rights of exchange, pre-emption or other subscription rights; provided that shares of non-voting common stock automatically convert into voting common stock upon a sale pursuant to an effective registration statement or a resale under Rule 144 under the Securities Act (Rule 144). There are no redemption or sinking fund provisions applicable to the non-voting common stock. In the event of any liquidation, dissolution or winding-up of our affairs, holders of non-voting common stock and common stock will be entitled to share ratably in our assets that are remaining after payment or provision for payment of all of our debts and obligations and after liquidation payments to holders of outstanding shares of preferred stock, if any.

Preferred Stock

The preferred stock, if issued, would have priority over the common stock and non-voting common stock with respect to dividends and other distributions, including the distribution of our assets upon liquidation. Our Board of Directors will have the authority without further stockholder authorization to issue from time to time shares of preferred stock in one or more series and to fix the terms, limitations, relative rights and preferences and variations of each series.

Table of Contents

Amended and Restated Stockholders Agreement

Pursuant to the amended and restated stockholders agreement, Carlyle and Onex have certain rights to appoint directors to our Board of Directors. Pursuant to the amended and restated stockholders agreement, our Board of Directors consists of nine members, with Carlyle having the right to designate four of the board members (one of whom must be a member of the management of the Company and be a U.S. citizen eligible to be issued the requisite U.S. Department of Defense (DOD) personnel security clearance), Onex having the right to designate two of the board members and the Board of Directors (with the approval of the DOD) having the right to nominate three board members (all of whom must be independent of the Sponsors, satisfy the independence requirements of the Exchange Act and the NYSE rules and two of whom must also be U.S. citizens eligible to be issued the requisite DOD personnel security clearances).

The amended and restated stockholders agreement contains restrictions on the sale of shares under Rule 144 by the Sponsors, contains restrictions on transfers of certain shares held by our named executive officers, provides tag-along rights to the Sponsors and grants the Sponsors the right to cause Allison Holdings, at its own expense, to use its best efforts to register the securities held by such stockholders for public resale, in each case, subject to certain conditions and exceptions. In the event Allison Holdings registers any of its common stock, these stockholders will also have the right to require Allison Holdings to use its best efforts to include the securities held by them, subject to certain limitations, including as determined by the underwriters. The amended and restated stockholders agreement also requires Allison Holdings to indemnify the stockholders party to that agreement and their affiliates in connection with any such registration of our securities.

Allison Holdings has certain repurchase rights under the amended and restated stockholders agreement with respect to common stock and options to purchase common stock issued under Allison Holdings equity incentive plans and held by members of management for up to one year after the termination of any such individual s employment with the Company, subject to extension upon the occurrence of certain events to be specified in the amended and restated stockholders agreement.

The amended and restated stockholders agreement will terminate upon the written agreement of Allison Holdings and the Sponsors.

Limitations on Directors Liability

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions indemnifying our directors and officers to the fullest extent permitted by law. We have entered into indemnification agreements with each of our directors which, in some cases, are broader than the specific indemnification provisions contained under Delaware law.

In addition, as permitted by Delaware law, our amended and restated certificate of incorporation provides that no director will be liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director. The effect of this provision is to restrict our rights and the rights of our stockholders in derivative suits to recover monetary damages against a director for breach of fiduciary duty as a director, except that a director will be personally liable for:

any breach of his or her duty of loyalty to us or our stockholders;

acts or omissions not in good faith which involve intentional misconduct or a knowing violation of law;

the payment of dividends or the redemption or purchase of stock in violation of Delaware law; or

any transaction from which the director derived an improper personal benefit.

This provision does not affect a director s liability under the federal securities laws.

To the extent our directors, officers and controlling persons are indemnified under the provisions contained in our amended and restated certificate of incorporation, our amended and restated bylaws, Delaware law or

Table of Contents

contractual arrangements against liabilities arising under the Securities Act, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Provisions of Our Amended and Restated Certificate of Incorporation, Amended and Restated Bylaws and Delaware Law that May Have an Anti-Takeover Effect

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Certain provisions in our amended and restated certificate of incorporation and amended and restated bylaws summarized below may be deemed to have an anti-takeover effect and may delay, deter or prevent a tender offer or takeover attempt that a stockholder might consider to be in its best interests, including attempts that might result in a premium being paid over the market price for the shares held by stockholders.

Among other things, our amended and restated certificate of incorporation and amended and restated bylaws:

authorize the issuance of blank check preferred stock that our Board of Directors could issue to increase the number of outstanding shares and to discourage a takeover attempt;

limit the ability of stockholders to remove directors only for cause if the Sponsors and their respective affiliates (other than Allison Holdings) collectively cease to own more than 50% of our common stock;

prohibit our stockholders from calling a special meeting of stockholders if the Sponsors and their respective affiliates (other than Allison Holdings) collectively cease to own more than 50% of our common stock;

prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders, if the Sponsors and their respective affiliates (other than Allison Holdings) collectively cease to own more than 50% of our common stock;

provide that the Board of Directors is expressly authorized to adopt, alter or repeal our bylaws;

establish advance notice requirements for nominations for election to our Board of Directors or for proposing matters that can be acted upon by stockholders at stockholder meetings;

establish a classified Board of Directors, with three classes of directors; and

require the approval of holders of at least two-thirds of the outstanding shares of common stock to amend the bylaws and certain provisions of the certificate of incorporation if the Sponsors and their respective affiliates (other than Allison Holdings) collectively cease to own more than 50% of our common stock.

The foregoing provisions of our amended and restated certificate of incorporation and amended and restated bylaws could discourage potential acquisition proposals and could delay or prevent a change in control. These provisions are intended to enhance the likelihood of continuity and stability in the composition of the Board of Directors and in the policies formulated by the Board of Directors and to discourage certain types of transactions that may involve an actual or threatened change of control. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our common stock that could result from actual or rumored takeover attempts. Such provisions also may have the effect of preventing changes in our management.

Table of Contents

Delaware Takeover Statute

In our amended and restated certificate of incorporation, we have elected not to be governed by Section 203 of the Delaware General Corporation Law (DGCL).

Listing

Our common stock is listed on the NYSE under the symbol ALSN.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

Table of Contents

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Latham & Watkins LLP.

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2012 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

Table of Contents

12,500,000 Shares

Allison Transmission Holdings, Inc.

Common Stock

Prospectus Supplement

December 10, 2013

Credit Suisse