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Growth Opportunities in the Global ADAS and Autonomous Driving Industry, 2026

ADAS Becomes Ubiquitous, L2+ Drives Competitive Differentiation, and Robotaxis Expand in Targeted Clusters

Global Automotive & Transportation Research Team at Frost & Sullivan

PLYQ-46
June 2026

ANALYSIS HIGHLIGHTS

Research Period

Study Period
2025 to 2032

Base Year
2025

Forecast Period
2026 to 2032

Vehicle Types

Passenger Cars

Robotaxis

Autonomous Shuttles

Geographic Scope

Global: Europe, North America, and Asia-Pacific (APAC)

- **Europe**: EU countries and the United Kingdom
- **North America***: The United States and Canada
- **APAC***: India, China, and Japan

Note: Frost & Sullivan has limited regional predictions to North America, Europe, the United Kingdom, China, Japan, and India. Revenue forecast based on the level of autonomy or ADAS feature is not covered as a part of this study.

*Includes the specified geographic scope, unless otherwise mentioned on the respective slide.

TOP 5 PREDICTIONS FOR 2026

ADAS becomes the standard driving tech for majority of L2 adoption	• Consumer demand for safer vehicles, especially in emerging markets such as India, is driving the rapid adoption of ADAS across various vehicle segments. • In response, OEMs are standardizing these systems beyond what regulations require to enhance safety and stay competitive. • Consequently, Level 2 capabilities are increasingly becoming a standard expectation rather than a premium feature.
L2+ expansion	• L2+ systems are expected to scale faster, as they avoid the regulatory complexities of higher autonomy levels. • Falling sensor costs, increasing competition, and the need for differentiation are driving OEMs to offer L2+ solutions. • L2+ is expected to be the fast-growing AD/ADAS segment in Europe and APAC between 2025 and 2030.
Robotaxi deployments	• Robotaxi deployments are expanding due to favorable regulations and well-organized pilot programs in China, North America, the Middle East, Europe, and Japan. • Fleet-based models enhance vehicle utilization and provide a clearer route toward commercial viability compared to private ownership. As a result, robotaxis represent the most promising pathway for the early commercialization of Level 4 autonomy.
AD/ADAS computing systems	• The automotive industry is transitioning from a distributed architecture to a zonal + centralized computing architecture to enable software-defined vehicles. Most premium and upper-mid segment models sold toward the end of the decade are expected to get HPCs. • The biggest opportunity is expected to come from the AI driving platform layer, as this defines how vehicles perceive, decide, and drive.
New business models	• As OEMs struggle to generate revenue from the AD business, the viable alternative for OEMs is to explore the hybrid revenue stack as a stop-gap solution before fully transitioning to the subscription model. • OEMs need to address key challenges such as limited ODD and consumer resistance before rolling out subscription plans.

ODD – Operational Design Domain

Source: Frost & Sullivan

GLOBAL AUTONOMOUS VEHICLE (AV) REGULATIONS

Europe

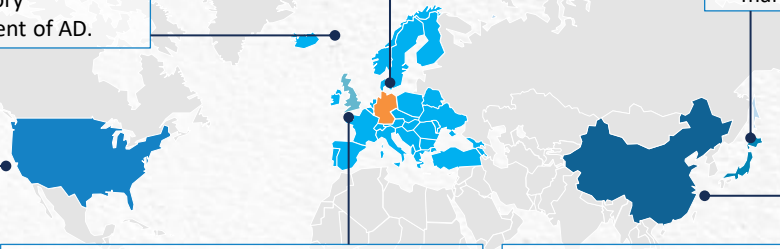
- With the amendment of UN R157, the United Nations Economic Commission for Europe (UNECE) has extended the AD limit from 60 km/h to up to 130 km/h in specific environments.
- Germany adopted the UNECE R157* in 2023. Also, 2022/1426 was established for the regulatory framework for type approval and deployment of AD.

Germany

- **In force:** L4 vehicles are allowed in designated areas. Mercedes' DRIVE PILOT L3 system is operational up to 95 km/h.
- **In discussion:** The country is expanding L4 use to urban areas and other public settings.

Japan

- **In force:** Japan's Road Traffic Act allows L4 AVs on public roads. The country has adopted the UNECE L3 ALKS regulations. Level 2+ systems are allowed under Japan's existing Road Traffic Act, and DMS is required. Japan made AEB mandatory for all vehicles from 2024 onward.



United States

- **In force:** In April 2024, the US NHTSA mandated that all new passenger cars and light trucks include AEB systems by September 2029. Florida, Georgia, Nevada, North Carolina, Utah, North Dakota, Virginia, California, and Texas, among others, have approved/allowed vehicles with L4 AD systems (without the driver) on public roads.

United Kingdom

- **In force:** The United Kingdom follows UNECE ALKS regulations for highway-piloted driving in slow-speed (60km/h) and high-speed (130km/h) L3 vehicles, capping to 70 mph on British roads.
- **In discussion:** The country is reviewing draft EU regulations on type approval of fully automated vehicles (L4).

China

- **In force:** In December 2023, China introduced regulations for the commercial operation of remotely operated robotaxis.
- By June 2024, nine domestic automakers were authorized to test these vehicles on public roads. Currently it leads L4 robotaxi deployment.
- The MIIT also drafted safety requirements for higher-level AD systems, set for implementation in 2027, and mandated DSSAD for intelligent connected vehicles, which took effect from early 2026.

*UNECE regulation on automated lane keeping system (ALKS)

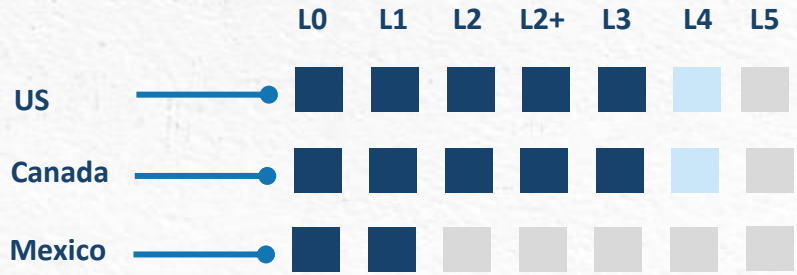
Source: Frost & Sullivan

ADAS AND AD REGULATIONS, NORTH AMERICA

- **In force:** In April 2024, the US NHTSA mandated that all new passenger cars and light trucks include AEB systems by September 2029. Florida, Georgia, Nevada, North Carolina, Utah, North Dakota, Virginia, California, and Texas, among others, have approved/allowed vehicles with L4 AD systems (without the driver) on public roads. Waymo, Zoox, and Nuro have received the permit to operate robotaxis in select cities.
- **In discussion:** The NHTSA has not issued unified federal rules for Level 3 and 4 vehicles, but they are operationally allowed through state-level frameworks. Currently, deployment has expanded to other cities in the United States.

- **In force:** In Ontario and Québec, regulatory frameworks support the public use of commercially available Level 3 AVs.
- **In discussion:** Manitoba and Nova Scotia are formulating new frameworks for AV testing and deployment. Canada is conducting pilot projects on L4 automation, focusing on autonomous shuttles in controlled, designated areas.

Regulatory Status, 2025



In force | In discussion and formulation (testing framework established) | Expected in 2026 | Expected in 2027 | Not available

Source: Frost & Sullivan

ADAS AND AD REGULATIONS, EUROPE

- **In force:** L4 vehicles are allowed in designated areas. Mercedes' DRIVE PILOT L3* system is approved up to 95 km/h under defined conditions.
- **In discussion:** Germany is working on expanding L4 deployments beyond fixed, pre-approved areas, including broader operational domains and scaling commercial use, but it is still under discussion.

- **In force:** The United Kingdom follows UNECE ALKS regulations for highway-piloted driving in slow-speed (60km/h) and high-speed (130km/h) L3 vehicles.
- **In discussion:** The United Kingdom is advancing domestic frameworks for broader self-driving (L4) deployment under the Automated Vehicles Act, with Wayve and Uber Partner to launch L4 autonomy trials in the United Kingdom.

Regulatory Status, 2025

	L0	L1	L2	L2+	L3	L4	L5
Austria	■	■	■	■	■	■	■
Belgium	■	■	■	■	■	■	■
Denmark	■	■	■	■	■	■	■
France	■	■	■	■	■	■	■
Finland	■	■	■	■	■	■	■
Germany	■	■	■	■	■	■	■
Greece	■	■	■	■	■	■	■
Italy	■	■	■	■	■	■	■
Ireland	■	■	■	■	■	■	■
Luxembourg	■	■	■	■	■	■	■
Netherlands	■	■	■	■	■	■	■
Portugal	■	■	■	■	■	■	■
Russia	■	■	■	■	■	■	■
Spain	■	■	■	■	■	■	■
Sweden	■	■	■	■	■	■	■
Switzerland	■	■	■	■	■	■	■
UK	■	■	■	■	■	■	■

■ In force ■ In discussion and formulation (testing framework established) ■ Expected in 2026 ■ Expected in 2027 ■ Not available

Source: Frost & Sullivan

* Temporarily scrapped

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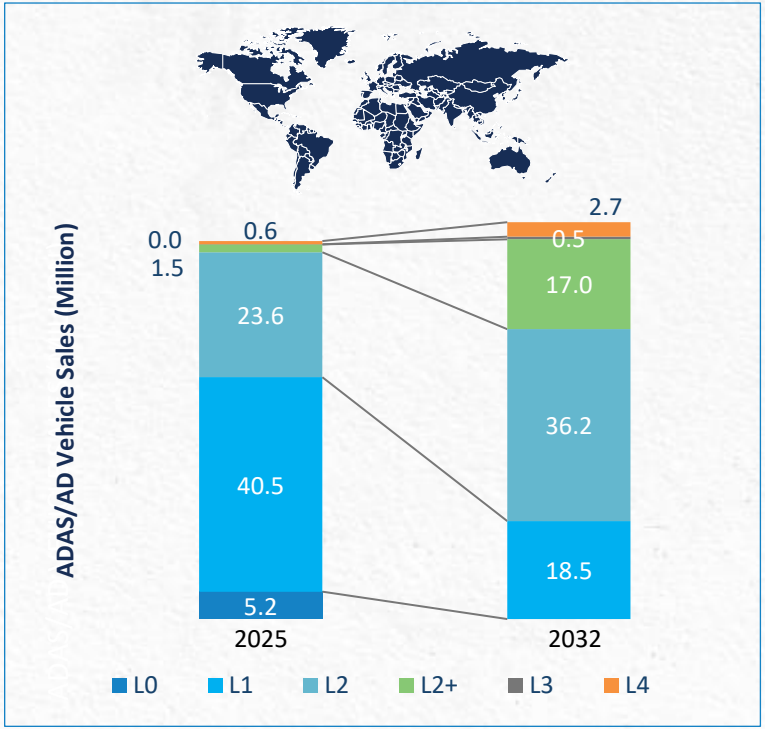
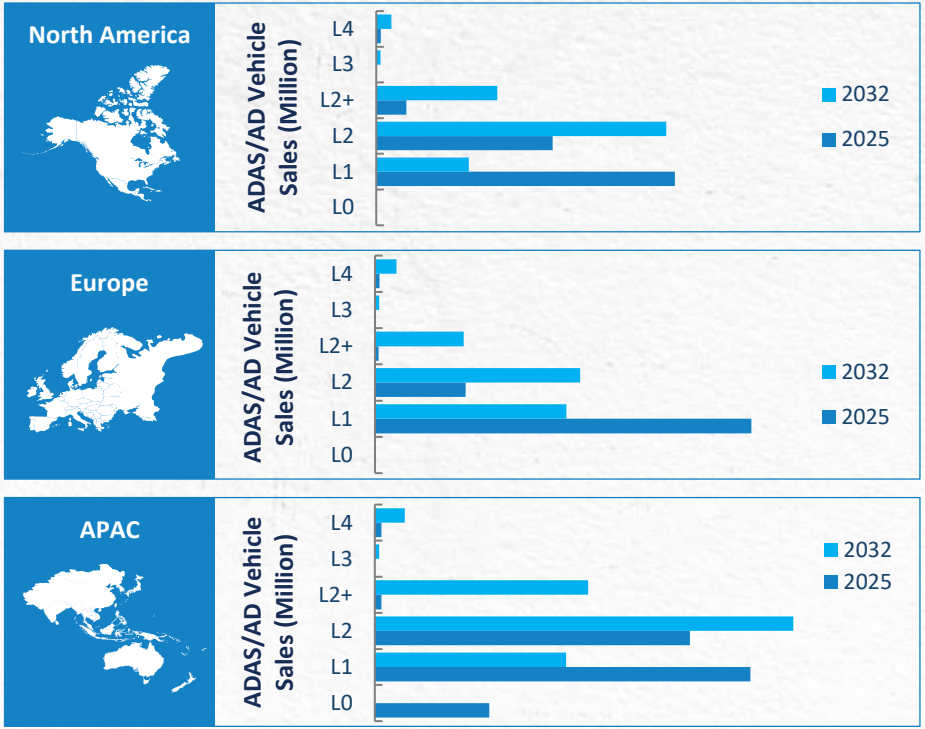
ADAS AND AV OVERVIEW

ADAS/AD: Vehicle Sales Trends, Global, 2025 and 2032

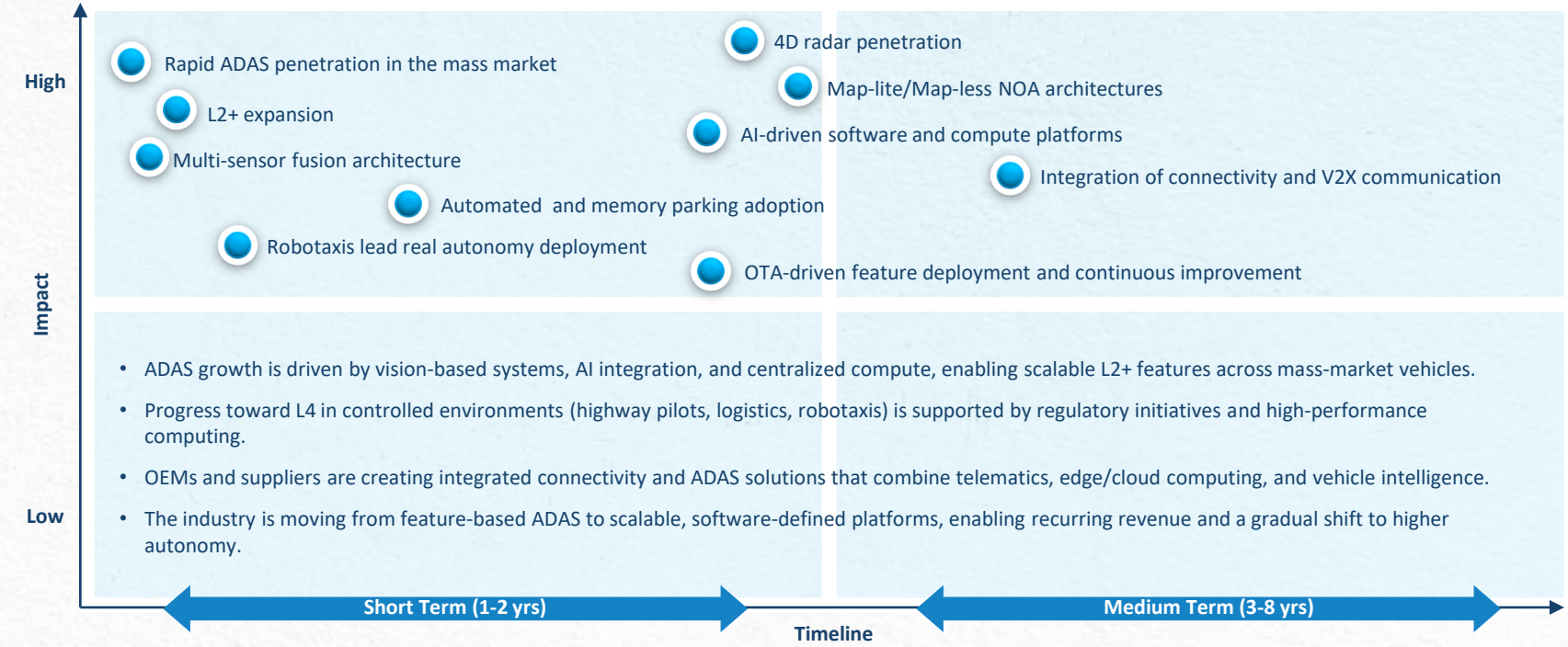




TOP TRENDS DRIVING THE GLOBAL ADAS AND AD INDUSTRY

MOST SHORT-TO-MEDIUM-TERM AD TRENDS FOCUS ON ENABLING AND EXTENDING HANDS-OFF AND EYES-OFF DRIVING FEATURES.

ADAS and AD: Industry Trends, Global, 2026–2032



Note: The following slides in the section discuss only the top 5 trends.

Source: Frost & Sullivan

ADAS/AD STACK BY MAJOR OEMS

	Mercedes Benz Drive Pilot #	Mercedes Benz Drive Assist Pro	BMW Personal Pilot	Ford Blue Cruise	Hyundai HAD/HDP	GM Super Cruise
SAE Level	L3	L2+	L2+ & L3	L2+	Up to L3 Planned	L2+
Model	S Class & EQS	CLA & S-Class	I7, i5, iX3	Mach-E, F-150, F-150 Lightning, Explorer, Expedition	Santa FE, Tucson, IONIQ, Palisade, Genesis G80, G90, GV60, GV80, Kia EV9	Cadillac, Chevrolet & GMC
Lidar	Valeo	Luminar	INNOVIZ	N/A	Mando + SOSLAB	N/A
SW/Cloud	NVIDIA	Momento China SW Stack	AWS (Cloud)	Mobileye REM	42 Dot SW Stack	Dynamic Map Platform (HD Map)
Computer Unit	Bosch/ NVIDIA	NVIDIA	Mobileye/ Qualcomm	Mobileye	Mobileye/ NVIDIA	Qualcomm
ODD	Select Highways	Urban Areas & Highways	Select Highways	Select Highways	Highways	Select Highways and Rural Roads
Region	NA & EU	EU & China	NA & EU	NA & EU	South Korea	NA
Subscription	$6,907 incl. VAT in EU	$3,947/3yr	L3 - $6,965	$650/yr $3,295/min. 7yr	Included in vehicle	$39.99/month $399/yr

Temporarily paused the L3 offering

Note: Other sensors also exist, including different combinations of HD cameras, ultrasonic sensors, and radar sensors for the surroundings. This list of mentioned models is not an exhaustive list. The market is moving toward lidar-less sensor setups.

Source: Frost & Sullivan

HANDS-FREE DRIVING COVERAGE

OEM	System	Hands-Off	Coverage	Analyst Perspective
Tesla	FSD (Supervised)	Partial	All roads	Tesla's FSD offers extensive road coverage with a non-geofenced AI approach but remains at Level 2, needing constant driver supervision. The emphasis is on data-driven AI scaling through OTA updates rather than hands-free deployment.
Ford	BlueCruise	Yes	130k miles	Subscription-based deployment focuses on OTA improvements and expanding coverage as a mainstream L2+ solution.
GM	Super Cruise	Yes	~700k miles	Many Cadillac and Chevrolet models, including EVs, use HD maps of hundreds of thousands of highway miles and a driver-monitoring camera, focusing on expanding coverage and refining highway automation.
Mercedes	Drive Pilot	Level 3 but limited	Small zones	Mercedes-Benz has temporarily paused its L3 deployment to prioritize the scalable expansion of L2+. Previously, it was advancing L3 deployment selectively within constrained operating conditions.
BMW	Highway Assistant	Yes	Mostly hands-on; Limited	BMW is focusing on scaling L2+ capabilities for broader deployment, while maintaining a selective and cautious approach to L3 development (paused).
Volkswagen	IQ.DRIVE Travel Assist	Hands-on	Highways and multi-lane	Volkswagen is focusing on scalable L2 ADAS for mass adoption, while developing hands-free L2+ through partnerships with Valeo and Mobileye for future deployment.

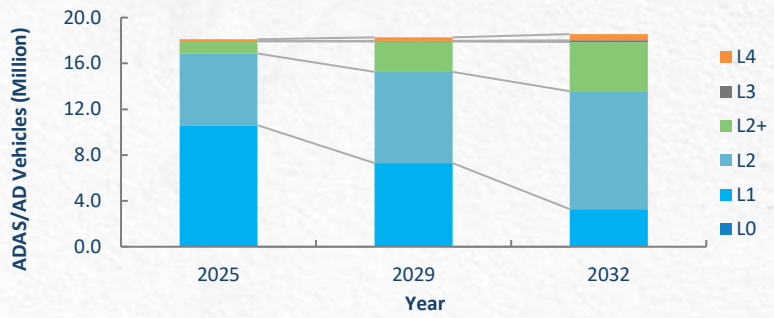
Source: Frost & Sullivan

NOTABLE ADAS AND AD COLLABORATIONS, 2026

Company I	Company Type	Company II	Company Type	Technology	Purpose/Outcome
Zeekr	OEM	**Mobileye**	Technology	ADAS	Providing vision-based ADAS for the Chinese market
VW	OEM	**Mobileye**	Technology	ADAS & AD	Offering Mobileye's SuperVision and Chauffeur platforms for VW brands
		XPENG	OEM	ADAS	Developing ADAS-focused E/E architecture
		Bosch	Tier I	ADAS & AD	Developing AI software stacks in partnership with CARIAD
Lyft	Mobility Services	**Mobileye**	Technology	Autonomous Shuttles	Integrating multiple systems to accelerate autonomous shuttle development
		May Mobility	Mobility Services		
		Nexar	Vision-based Systems		
		Baidu Apollo GO	Mobility Services		Baidu to provide RT6 vehicles and AD technology on Lyft's platform
Valeo	Tier I	**Teledyne**	Thermal Imaging	ADAS & AD	Improving night vision for ADAS systems
		Here	Maps	ADAS/AD	Proving navigate on pilot technology
		Momenta	Technology	ADAS	Accelerating the development of AD solutions
		Seeing Machines	Technology	ADAS	In-cabin monitoring

ANALYSIS BY REGION: NORTH AMERICA

ADAS/AD: Vehicle Sales Forecast, NA*, 2025, 2029, and 2032



Major Insights

- With BlueCruise, Ford plans to bring Level 3 to the market in 2028, allowing drivers to take their hands and eyes off the road on certain highways, starting with its affordable mid-size Universal EV (UEV) platform that costs about $30,000.
- GM has shut down the Cruise robotaxi service and is focusing on personal vehicles. Nearly 700,000 Super Cruise-enabled vehicles have driven 800 million hands-free miles across 23 states in North America. This work now forms the foundation for hands-off, eyes-off driving, which will debut in 2028 on the Cadillac ESCALADE IQ.
- In early 2026, Alphabet owner Waymo opened its robotaxi select riders service in four new cities. With this expansion, Waymo is now operating in 10+ US cities, extending its lead in the market. While Tesla began operating a small number of Robotaxis in two cities, it missed its earlier timeline (by the end of 2025) of deployment in 10+ cities.

OEM	Mercedes-Benz#	Audi	BMW#	Volvo	Tesla	VW	Ford	Nissan	Honda	Toyota
L0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
L1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
L2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
L2+	◆	◆	✓	◆	◆	◆	✓	✓	◆	✓
L3	✗	O	✗	◆	✗	✗	◆	✗	✗	✗
L4	✗	✗	✗	✗	◆	◆	✗	◆	✗	✗

Temporarily paused the L3 offering

Legend: ✓ Available ◆ Planned for 2026–2028 ✗ Not available

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*Countries considered for the forecast: The United States and Canada

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Global Automotive & Transportation Research Team at Frost & Sullivan

Appendix

How does your organization identify and prioritize Growth Opportunities?

AGENDA

AGENDA (CONTINUED)

AGENDA (CONTINUED)

AGENDA (CONTINUED)

AGENDA (CONTINUED)

AGENDA (CONTINUED)

LIST OF EXHIBITS

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