



GENTEX (GNTX)

31/05/2022

HIGHLIGHTS

- Compounder with a wide moat
 - Monopoly-like market share
 - High margin business with 20% return on capital
 - Innovator with “Spawner DNA”
 - Unique and hard to replicate culture
 - Owner-mind-set management and employees
 - Fairly priced high quality compounder with “free options”
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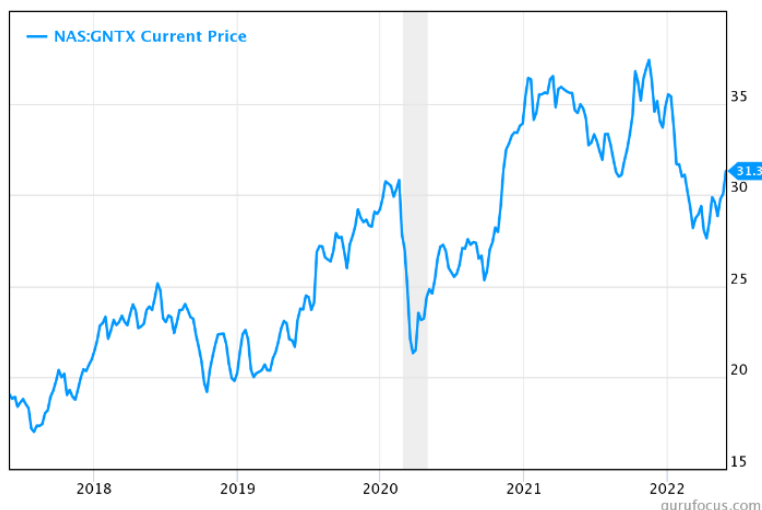
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GENTEX (GNTX), SHARE PRICE \$31.30, MARKET CAP: \$7,340MM, 31/05/22

GENTEX CORPORATION

Figure 1 - 5 year price chart



EXECUTIVE SUMMARY

White Loch Capital Management believes that Gentex is a durable high margin business with a wide defensible moat. We would argue that it has a hard to replicate innovative culture that has transformed the business from a low margin fire safety equipment business into a technology company with “Spawner DNA”. We think that the current CEO and management team symbolise that great innovative culture, many of whom have been at Gentex for over 20 years are still young – Steve Downing, CEO, joined Gentex in 2002 and is still only 42 years old. We think the company is highly misunderstood, we look at the business like the Google of automotive parts, it has an almost monopoly position in a high margin business (91% market share in auto-dimming mirrors), and is using that cash flow to innovate around its core competencies and prepare for the future. Moreover, the business has a long history of returning cash to shareholders and a solid debt free, capital light, balance sheet. Finally, the risks that many analysts associate with this business, the obsolescence of rearview mirrors and autonomous vehicles, we think are overblown and if anything present an opportunity for the business. Though the shares are currently **not** offering a satisfactory margin of safety we believe the business is a fantastic one and one worth getting familiar with.

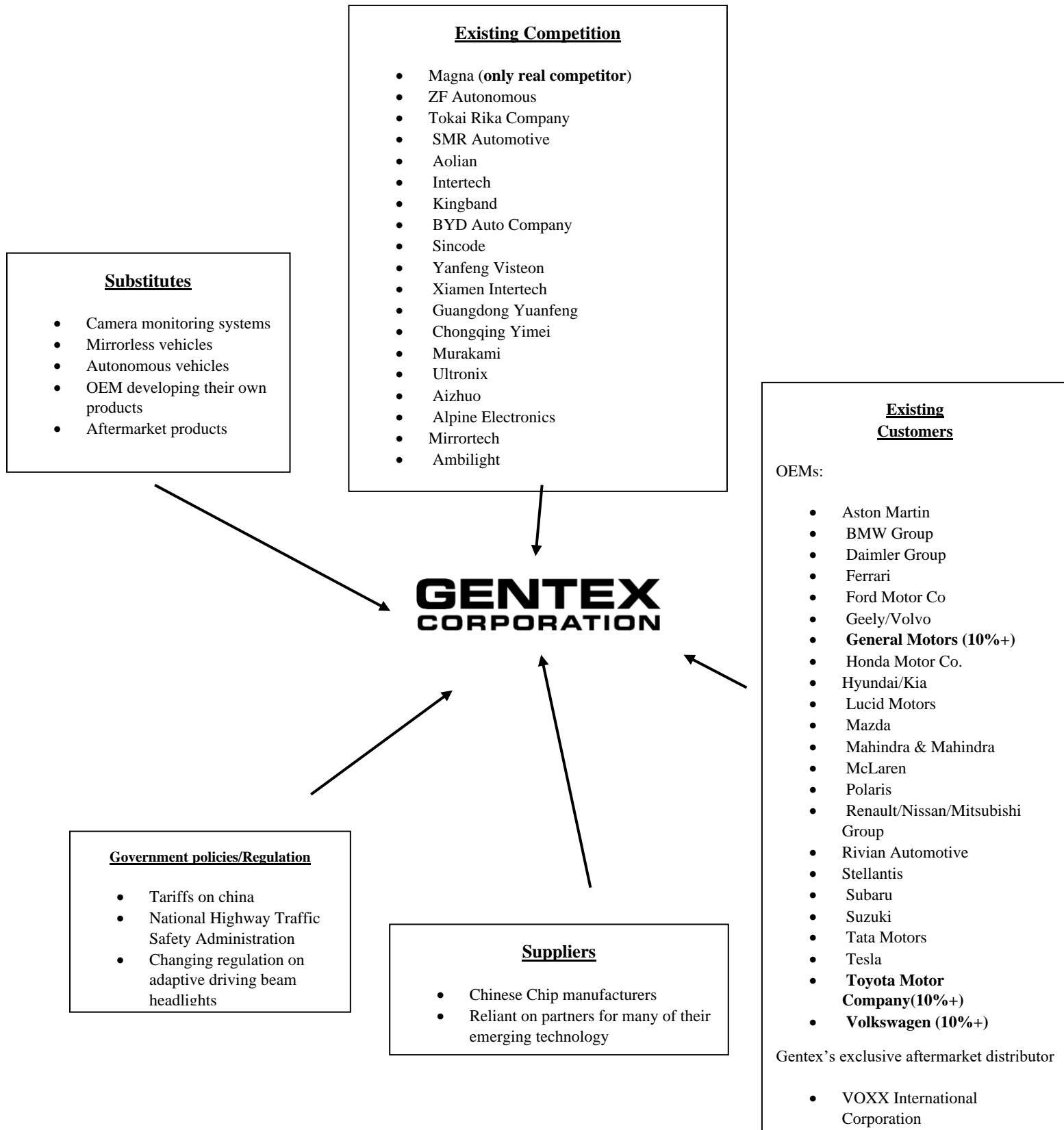
THE CORE BUSINESS

Gentex was founded in 1974 by Fred Bauer, to manufacture residential smoke detectors. Fred Bauer set out to create an entrepreneurial culture prioritising innovation and an owner-mind-set from his employees. Very quickly Gentex began to evolve, introducing sophisticated fire protection products for commercial use. In 1982 the company introduced the first commercially successful interior automotive auto-dimming mirror. This highly technical product solved the problem of glare in mirrors that could temporarily impair the driver’s vision and was an alternative to the manual day/night interior mirrors that were once found in cars. Gentex single handedly created an entire industry – everything from the technology to the manufacturing and testing processes. The auto-dimming

Figure 2 - Sales by segment

	2021	2020	2019
Automotive Products			
Automotive Mirrors	\$ 1,563,424,443	\$ 1,520,628,604	\$ 1,638,600,272
HomeLink® Modules*	133,763,591	127,569,539	171,936,615
Total Automotive Products	\$ 1,697,188,034	\$ 1,648,198,143	\$ 1,810,536,887
Other Products Revenue	\$ 33,981,895	\$ 39,991,262	\$ 48,360,519
Total Revenue	\$ 1,731,169,929	\$ 1,688,189,405	\$ 1,858,897,406

technology was widely accepted by the market. As demand for auto-dimming mirrors soared, so did competition. However, 40-years on from the introduction of the auto-dimming mirror Gentex has used its unique culture and technology to keep a monopoly-like market share. Since the introduction of the automotive interior auto-dimming mirror the company has continued to evolve adding exterior auto-dimming mirrors, camera monitoring systems and developing key competencies in connected car, sensing, digital vision and auto-dimming devices.



AUTOMOTIVE REARVIEW MIRRORS

Automotive rearview mirrors, including interior and exterior, represent about 90% of the company’s sales and almost all of its profit. The automotive rearview mirrors segment is dominated by auto-dimming mirrors, however does also include camera monitoring systems, digital video recorder (DVR), non-dimming rear view mirrors and aftermarket licencing fee.

The automotive auto-dimming rearview mirror was designed to prevent glare while driving. These mirrors are relatively expensive and have historically only been placed in high-end. Gentex designs the mirrors to fit specific OEM name plates and is working with the OEM during the design of the car. As demand for auto-dimming mirrors has grown Gentex has started offering a wider range of mirrors, technology and pricing, with a long runway ahead in penetrating the lower end of the market. Gentex is focused on the customer and differentiation working with the OEMs to get the product and pricing right for each individual name plate. The crown jewel of Gentex’s product offerings is the Full Display Mirror® (FDM). The FDM is a highly technical interior mirror that can be touch screen or controlled by buttons, and integrated with: a full suite of camera monitoring systems; DVRs; applications such as temperature, calendar alerts and parking assist. Gentex has created numerous applications for that can be integrated into the FDM and is revolutionising the interior rearview mirror. Gentex has developed cabin monitoring, which is a camera behind the mirror facing into the cabin, it has huge potential applications for driver safety, driver monitoring and autonomous vehicles (discussed in more detail later). HomeLink® allows drivers to control radio frequency devices like garage doors with the rearview mirror (discussed in more detail later). Gentex’s own SmartBeam® which was the world’s first high beam assist system, helping drivers adjust their headlights according to their environment which works from a forward facing camera integrated into the interior mirror. Gentex has developed the first integrated toll module, ITM®, which works on over 98% of US toll roads giving drivers a single account for toll management that is completely integrated into the interior mirror meaning no extra toll module on the windscreen. The FDM is about 1.1m out of the total 27.2m of Gentex’s interior mirror shipments and so has a long runway ahead of it. The FDM is truly changing the use case for the interior rearview mirror, to a powerful multifunctional device that is not only integral for safety but provides drivers with technology to connect with the world.

Despite fierce competition since the introduction of the interior automotive auto-dimming mirror in 1982 Gentex still maintains a 91% market share, with its only major competitor being Magna. Gentex has a substantial technological advantage that is protected by the 2,017 patents and 396 trademarks it currently holds. This technological advantage has led Gentex to supply sub-assembly products to their competitors including Magna. Another example of this is that while Gentex does not manufacture the rearview mirrors for Tesla it does supply sub-assembly auto-dimming products for the vehicle. While Gentex currently has a considerable technological advantage there is no guarantee it will continue to have in the future as electrochromic (auto-dimming) technology is the subject of research and development efforts by many current/potential competitors. We believe that Gentex will maintain its technological advantage through continuous innovation that is fostered by its entrepreneurial culture.

OEMs are looking for trustworthy auto-parts suppliers that are willing to collaborate on OEM-tailored designs. Furthermore, it is critical for OEMs to know that their part

Figure 3 - Mirror sales 2021



Figure 6 - touch screen FDM



Figure 5 - Sales by geographical region

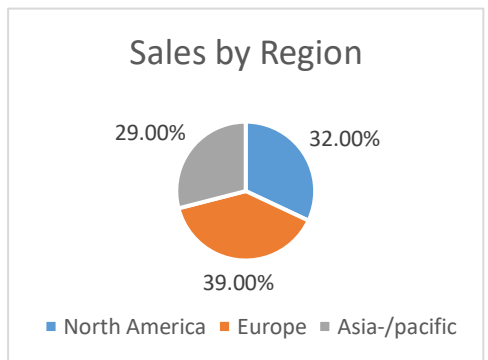


Figure 4 - Auto-dimming wing mirror



Figure 7 - An aftermarket Gentex auto-dimming mirror, branded and distributed by VOXX international

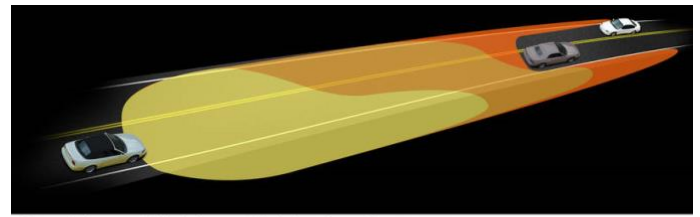


supplier have their own house in order as a single delayed part often means the production of the whole car gets delayed. As we seen in the wake of Covid the production of cars plummeted due to delays from part suppliers. Gentex has a stellar reputation for reliability and did extremely well to cause minimal delays to the OEMs. We believe this consistent reliability and efficiency makes Gentex the partner of choice and is a major competitive advantage.

Gentex products are currently in more than 650 nameplates across over 35 different OEMs. Toyota, General Motors and Volkswagen each account for more than 10% of Gentex's sales. The FDM is typically found in high-end vehicles or as an add-on for the lower end vehicles. We think that Gentex has a broad enough customer base so that it has some negotiation power. Moreover, as customers start to demand Gentex's technologies and integrated apps we think that this will put Gentex in a better position for negotiations with OEMs. However, it is evident that the big auto-manufacturers generally have substantial power over auto-part suppliers.

Gentex's rearview mirrors products are generally sold at very high margins with the FDM being the highest margin product. Historically the businesses has earned gross profit margins in the region of 35%-40%. As demand for the FDM mirrors grows and becomes a bigger piece of the segment we think that in the long run this business can sustain gross profit margins at the high end of its historical range, 40%. We think that the business will continue to innovate around the FDM product and ultimately keep its monopoly-like market share. Growth in rearview mirrors will largely follow the growth in the production of light vehicles with some outperformance as the demand for the FDM and Gentex's technology grows. We think that the cyclical nature of the industry keeps out investors and competitors alike. However, we have seen Gentex use its strong balance sheet and high margins to take advantage of the cycles actively investing in the down cycles and at the end of 2021 delaying price increases to put pressure on competition and strengthen their relationships with the OEMs at a time when weaker competitors were forced to raise prices due to inflation pressures. In Q1 2022 Gentex's gross margin was sitting at the very low end of its historical average, 34.3% due to part shortages, higher shipping costs and general inflationary pressures. We believe Gentex is delaying price increases and collaborating with OEMs, taking short term price pressure to gain market share and entrench themselves further as the preferred supplier to the OEMs.

Figure 8 - Gentex SmartBeam®



To optimize a vehicle's forward lighting, SmartBeam can:

- Automate high- and low-beam switching.
- Extend and contract the low-beam pattern.
- Generate "block-out" regions for the "constant-on" high-beam systems of the future.



LIGHT VEHICLE PRODUCTION

Light vehicle production was decimated by the lockdowns that happened because of the Covid pandemic. Global light vehicle production nosedived 16% in 2020 from 2019 levels. With many of Gentex's key markets decreasing more than 20%. Moreover, once lockdowns eased, demand rocketed up however part shortages plagued the production of light vehicles declining further from the weak production number caused by the pandemic. We are currently still seeing shortages in supply chains and 2022 forecast remains relatively low and below trend. However, demand is still very high and auto inventories are near record lows. Furthermore, OEMs are prioritising building high-end vehicles with the current average listing prices are near record highs at over \$45,000, this benefits Gentex as its products are found in higher end vehicles. The IHS forecasts global light vehicle production to grow 8% off the low base set in 2021, and then grow a further 10% in 2023. These numbers are still incredibly cautious and below trend, in 2020 the IHS had forecasted production of 75.5 million units in 2021 and 82.3 million units in 2022, considerably below the current forecasts. Therefore, we think that light vehicle production growth could stay elevated for a number of years to catch up with trend growth. Moreover, we see upside to the current forecasts if supply chain issues subside. All of this means that currently Gentex is severely under earning and has sustainable high growth rates ahead in the short to medium term. We also think that this has made the stock look optically expensive and keeping the stock down. Gentex has forecasted for roughly 8%-16% growth for 2022 and 15%-20% growth for 2023. Though these forecasts might seem aggressive for a company that has traditionally grown at a slower rate we think these growth are actually conservative given the market backdrop and the increased adoption rate of the FDM. We see upside to these forecasts if supply chain shortages are worked out and possibly slight downside if we see further lockdowns and continued supply chain issues. Like the wide ranging forecasts suggest the market environment is even more chaotic than normal. That being said we think that above trend growth rates will be around for a while to make up for lost production.

Figure 9 - Global light vehicle sales

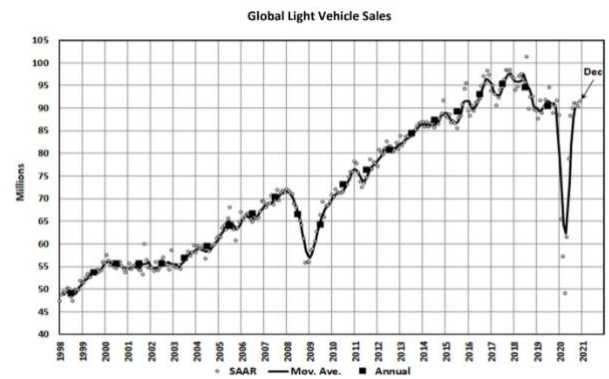
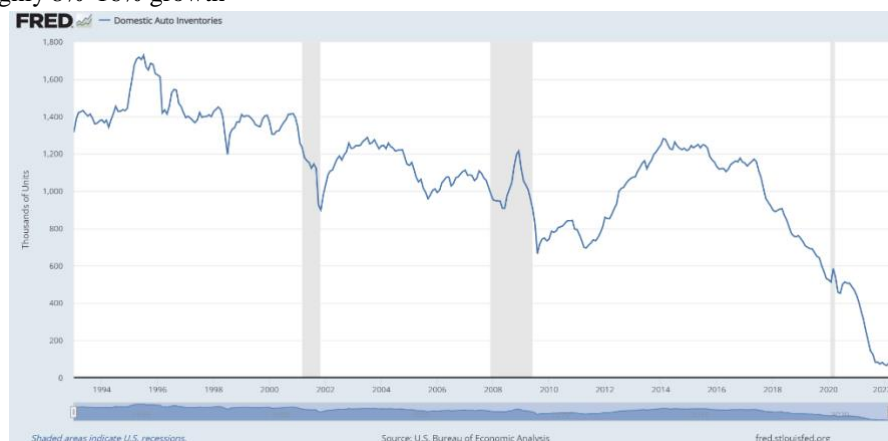


Figure 10- Light Vehicle production forecasts

LIGHT VEHICLE PRODUCTION

(per IHS Markit January light vehicle production forecast) — in millions

Region	Actual 2020	Actual 2021	Forecast 2022	Forecast 2023	Variance '21/'20	Variance '22/'21	Variance '23/'22
North America	13	13	15.2	17.2	-	17%	13%
Europe	16.6	15.7	18.5	20.1	(5.4)%	18%	9%
Japan and Korea	11.2	10.8	11.4	11.9	(3.6)%	6%	4%
China	23.6	24.5	24.3	27.4	3.8%	(1)%	13%
Total Light Vehicle Production	64.4	64	69.4	76.6	(0.6)%	8%	10%



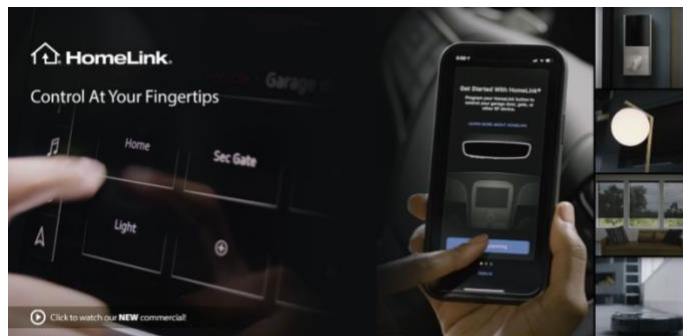
HOMELINK

2003 Gentex has been integrating HomeLink®, a wireless vehicle to home communications product that enables drivers to remotely activate radio frequency products like garage doors, lights and security systems from the convenience of their vehicle. In 2013 Gentex acquired HomeLink® for roughly \$700 million. HomeLink® is the undisputed leader of car-to-home automation systems with very little competition. Globally there are more than 100 million HomeLink®- equipped vehicles on the road. We think that HomeLink® and the other Gentex technology will provide a stickiness with customers demanding it in their vehicles. Gentex has developed the HomeLink Connect® which is an APP that gives drivers accesses to cloud-based automation services. The APP has also provided Gentex with a base application to build off, as we will see later Gentex has big plans to further integrate technology onto the HomeLink Connect® platform. HomeLink® can be preinstalled by the OEMs or can be installed aftermarket. Gentex does not segment the profitability of its automotive products, however the way we see HomeLink® is a way for Gentex to make the use of their mirrors and integrated technology more sticky and creating customer demand. Eventually we could see HomeLink Connect® expand to be a hub of car connectivity.

Figure 12 - FDM integrated with HomeLink®



Figure 13 - HomeLink Connect® lets drivers remotely control "smart devices"



DIMMABLE AIRCRAFT WINDOWS

Gentex has taken its expertise in electrochromic technology and expanded its use to other surfaces. One use that has already been adopted is dimming windows that allow passengers to dim the window to their preferred brightness, allowing the window to completely block out light, without any window shade. This is still a relatively nascent and expensive technology that has been adopted in the premium passenger segments of a select few planes including the Boeing 787. It is the only product of its kind with competition coming from older and cheaper aircraft windows. The adoption of the technology was hampered by the Covid lockdowns when the airline industry went into survival mode. In 2021 the company only did about \$9million in window sales way down from \$24.6 million in 2019.

Figure 14 - Dimmable Windows use case



DIMMABLE WINDOW FEATURES

- Large window design
- Block up to 99.999% of sunlight
- High-speed transition between clear and dark
- Innovative passenger touch control
- Infrared rejection layer manages cabin heat load
- Eliminates need for troublesome mechanical shades

Figure 15 - laminated glass



Use case for laminated glass in aerospace market

Luxury aesthetics

Chemically strengthened

Lightweight

Improved acoustics

Gentex has been looking to actively expand into the aerospace industry with acquisitions such as Air-craftglass a Belgian company specializing in research and development for aircraft windows. Gentex also offers its highly specialised laminated glass that can be used on the interior of aircraft. We see the aerospace market as a long term option embedded within Gentex, we have no inclination on whether Gentex's technologies in the space will be widely adopted and what the opportunity is. We do see it as a sign that the innovative culture is well and truly alive at Gentex.

FIRE SAFETY EQUIPMENT

Fire safe equipment is where it all started for Gentex in 1974, manufacturing things like Smoke detectors and various fire alarms and signalling devices. The products are largely commoditized and sold into markets with many competitors. The businesses is largely stable, growing very little over the last 20years. In 2021 Gentex did about \$25 million in fire safety equipment sales, having done about \$21 million in 2001

While we don't think that this segment will create much value in the future, but we do think that Gentex has managed to take technologies developed in the Fire Safety Equipment segment and grow seemingly unrelated businesses and will continue to do so in the future.

EMERGING TECHNOLOGIES

Over the years, Gentex has learned how to leverage core technologies and create synergy between its seemingly incongruous product lines. For example its sensing technology segment was born from its photoelectric sensing devices which allow its smoke detectors to "see" the smoke and Gentex developed key expertise in circuit boards from years of building their own circuit boards for their smoke detectors.

Gentex is currently developing many capabilities some of which will, no doubt, not lead to successful products but some that will. We think this culture of innovation and constant evolution is a key competitive advantage for Gentex and its future leading segments might not have been created yet. We see Gentex developing strong capabilities in areas such as autonomous vehicle segment and think by the time fully autonomous vehicles come about Gentex will be well positioned to be a leader in the space. We also like to see Gentex venture into new industries, like medical devices, through partnerships. We think that Gentex is throwing a lot against the wall at the moment and seeing what sticks.

Figure 16 - Gentex's core technologies



Figure 17 - recent acquisitions and partnerships

ACQUISITIONS/PARTNERSHIPS

- Targets
 - Aligns with or expands our core competencies
 - Unique/proprietary technology or capabilities
 - Extends current product portfolio and offerings
 - Creates opportunities in new verticals
- Recent Acquisitions/Partnerships
 - Mayo Clinic – Partnership – 2019
 - PayByCar – Partnership – 2020
 - RetiSpec – Partnership – 2020
 - Simplenight – Partnership – 2020
 - Vaporsens – Acquired – 2020
 - Argil – Acquired – 2020
 - Air-Craftglass – Acquired – 2020
 - Guardian – Acquired – 2021
 - eSight – Partnership – 2022



DIMMABLE DEVICES

Dimmable devices is at the centre of Gentex’s wheelhouse. Gentex is looking to expand its dimmable devices beyond rearview mirrors and aircraft windows into large area dimmable devices such as sunroofs and windows. The current Gentex sunroof would allow each passenger to change the opacity of the sunroof in their segment. While the large area dimmable devices are still in the testing phase Gentex is working with OEMs on these concepts together can we could see some products in cars in the near future.

Figure 18 - dimmable sunroof



SENSING

From its humble beginnings in smoke detection Gentex has managed to build world leading capabilities in sensing ranging from digital vision sensing to chemical detection.

We think that Gentex’s expertise in in-cabin monitoring and its acquisition of Guardian Optical Technologies in 2021, has big potential especially with the rise of robo-taxis. Gentex’s in-cabin monitoring products provide a comprehensive view of the entire cabin, not only from high resolutions but also infrared sensors and micro-vibration detection. Combined with AI systems the Gentex cabin monitoring system can track the entire vehicle cabin, its objects and assessing the behaviour of its occupants. Current applications for this technology include driver monitoring systems which detect driver distraction or drowsiness. This could also be used in the car insurance industry to track the driver’s behaviour and assess the risk of insuring that particular driver.

This has numerous implications for robo-taxis, It can notify passengers of left objects in the car, it can detect violent or unscrupulous behaviour of the passengers, and respond accordingly – phone police, bill passenger. It can even measure the heart rate of passengers which could detect if the passenger was having a medical emergency.

Finally Gentex is developing iris scanning capabilities that could authorisation in-vehicle secure transaction, biometric vehicle security and personalized system settings.

Another Gentex technology we see with a lot of promise is the nanofiber sensing technology. In 2020 Gentex acquired Vaporsens which is an ultra-sensitive sensing technology that can detect airborne chemicals. We think that this builds on Gentex’s robo-taxi technology, the technology could quickly detect chemicals including cigarette smoke but also more dangerous chemicals and so that a quick response could be initiated. Vaporsens also builds on Gentex’s aerospace offerings, as this product could have huge implications for the aerospace industry as a powerful chemical detector could be in aircraft or at the boarding gate to detect explosives or other harmful chemicals.

Figure 19 - in-cabin monitoring system



Figure 20- Gentex intelligent medical lighting



Figure 21 - RetiSpec partnership for alzheimer's detection



Figure 22 - eSight partnership building devices for the visually impaired



Figure 23 - A new nanofiber sensing technology capable of detecting a wide variety of chemicals



CABIN SENSING FEATURES

- Security
explosive/flammable elements
- Health
air quality and airborne contaminant:
- Safety
smoke/vape

Figure 24 - Aircraft cabin sensing use case



SMART LIGHTING FOR:

Figure 25 - Sensing for smart lighting

- Aisles
- Galleys
- Cockpits
- Baggage Compartments

From Gentex's sensing technologies we think that in-cabin monitoring and Vaporsens have the most opportunity and has applications within markets Gentex already operates in. Gentex is developing more technologies like smart lighting, biometrics and medical devices that also has promise but are perhaps outside Gentex's core markets.

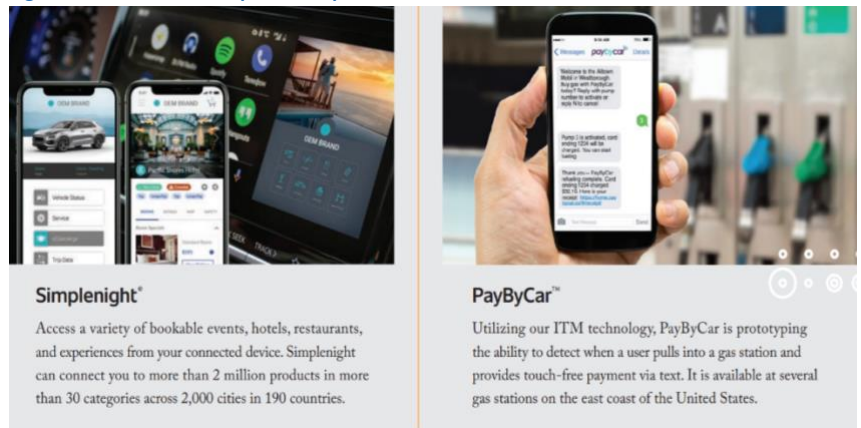


Figure 26 - aerospace biometrics applications

CONNECTIVITY

Gentex is a leader in connected car and has big plans to expand its capabilities. The core of Gentex's connected car technologies is HomeLink Connect® and ITM®. Gentex has plans of expanding ITM® to make it the basis for future in-vehicle payment for everything from gas and fast food to coffee, parking spaces, and more. We have seen Gentex start down this road by partnering with PayByCar which is prototyping the use of ITM® to detect when a car pulls into a gas station and provide a touch-free payment via text. We have also seen Gentex start to expand HomeLink Connect® by integrating Simplenight onto the app. Simplenight provides drivers with Mobile "e-concierge" services and allows drivers to book hotels, events, dinner reservations and more. We can expect more from Gentex in coming years to expand its connected car offerings and we see this both as a huge opportunity on its own and providing consumer demand for its rearview mirrors which is integrated into this ecosystem.

Figure 27 - Connected Car partnerships



Simplenight®

Access a variety of bookable events, hotels, restaurants, and experiences from your connected device. Simplenight can connect you to more than 2 million products in more than 30 categories across 2,000 cities in 190 countries.

PayByCar™

Utilizing our ITM technology, PayByCar is prototyping the ability to detect when a user pulls into a gas station and provides touch-free payment via text. It is available at several gas stations on the east coast of the United States.

VISION SYSTEMS

Gentex has an array of vision system technology that can be integrated into the FDM. This includes camera monitoring systems and integrated digital recording systems. Gentex has developed an APP, ReVu which allows drivers to easily save and rearview recordings made from the camera monitoring systems on their vehicles. The fact that this technology is all integrated is a huge competitive advantage to aftermarket DVRs and camera monitoring systems that require installation and additional clutter on the windscreen. The digital vision systems are generally quite expensive and are typically only found in high-end vehicles. We could see price come down as the technology gets better and see a wider adoption. However we think that currently the vision systems do a good job of increasing the demand and use cases for the FDM which is a high margin product.

Figure 28 - Typical aftermarket DVR



Figure 29 - Gentex exterior vision systems

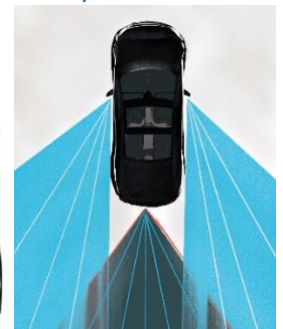


Figure 30 - Gentex's integrated DVR

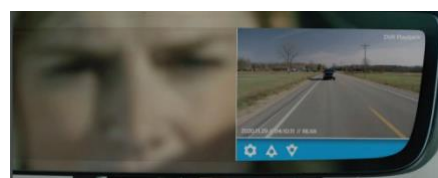


Figure 31 - Exterior Gentex camera



MANAGEMENT

Name	Age	Position Held	Current position held since	Joined Gentex in
Steve Downing	44	President and Chief Executive officer	2018	2002
Neil Boehm	50	Chief Technology Officer and Vice President	2018	2001
Kevin Nash	47	Vice President, Finance, Chief Financial Officer and Treasurer	2018	1999
Matthew Chiodo	57	Chief Sales officer and Senior Vice President, Sales	2022	2001
Scott Ryan	41	Vice President, General Counsel and Corporate Secretary	2018	2010

This management team has developed themselves from a young age under Gentex’s founder Fred Bauer. Mr Bauer who from founded the company in 1974 and grew the business to a \$6billion market cap company when he retired in 2018. A founding principal of the company was to have innovation at the core of its DNA and for employees to have an ownership-mentality. We think that the innovative and owner-mentality culture that Mr Bauer instilled in Gentex is still very much alive and growing today. Furthermore, we think that this special culture is a massive competitive advantage that takes decades to build and is very hard to replicate. The fact that so many employees are spending their whole careers at Gentex and being able to work their way up the business to CEO, shows that this is a really special culture and that the management team has a lot of depth and expertise. This workplace culture is all the more important in the current tight labour market where employees are choosing to work for companies with strong cultures and employers who respect them. However, a risk that comes with having a group of managers who have all worked together for so long is the management team turning into an insular “club”.

CULTURE

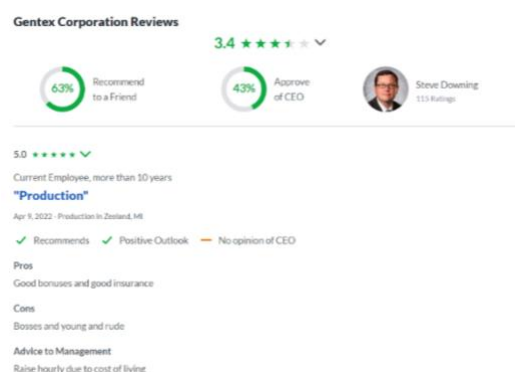
To understand Gentex it is critical to understand its culture. From its very founding entrepreneurship, innovation and winning with owner-mind-set employees has been at the heart of the company. Since the very early days of the business, almost all employees have been included in profit-sharing bonuses and stock based compensation. A key driver of Gentex’s growth has been its owner-mind-set employees who win as the company wins. We believe this has been one of the key reasons why the company has and will continue to evolve, innovate and create long-term shareholder wealth.

We think this passage from the 1998 Annual report summarises the culture at Gentex

“Gentex’s ultimate goal is to make employees feel like entrepreneurs, empowered to be innovative, take risks, and show initiative while still working within the framework of an established organization.”

However, going through websites like Glassdoor we have come across evidence that Gentex’s culture might be at risk and there were complaints about low pay. Insights from services like Glassdoor always have to be taken with a pinch of salt. Moreover, we can imagine that the unique culture is not for everyone and for those who do not have that owner-mind-set maybe Gentex isn’t the place for them.

Figure 32 - Gentex Glassdoor rearview



RISKS

Gentex faces many risks to its core rearview mirror business as new technologies are continuously being developed. With the development of electric vehicles we have seen an influx of new OEMs into the market who might introduce new alternatives to rearview mirrors or choose not to use Gentex as their supplier. Moreover, as autonomous vehicles get developed you could argue that a full autonomous vehicle has no need for a rearview mirror. However we think that Gentex's rearview mirror business will continue to grow and does not face being made obsolete in the near future.

CAMERA MONITORING SYSTEMS

We have seen some OEMs come up with concept vehicles without wing mirrors. However these have generally not been allowed under the highway authorities. In 2019 for the first time Audi was granted a two-year exemption to sell up 5000 vehicles with camera monitoring systems instead of outside mirrors. We do not foresee wide adoption of camera monitoring systems as you still need the same wing mirror structure and also doesn't eliminate the need for that structure in indicating. Secondly camera monitoring systems can be installed behind the mirror, we don't see why getting rid of the mirror is necessary as it is cheap compared to the camera monitoring system and with the mirrors there you have a backup in case there is a problem with the camera monitoring system. We think cars with camera monitoring systems will continue to be sold with mirrors for regulation reasons and because the mirrors provide a backup. It is not an either or situation we think they are very much compatible. Finally Gentex has already developed its mirrorless rearview camera monitoring system to give that to the OEMs if that is what they want and the regulatory bodies agree to it.

Figure 33 - Lexus Mirrorless rearview camera monitoring



Figure 34 - Audi Mirrorless rearview camera monitoring



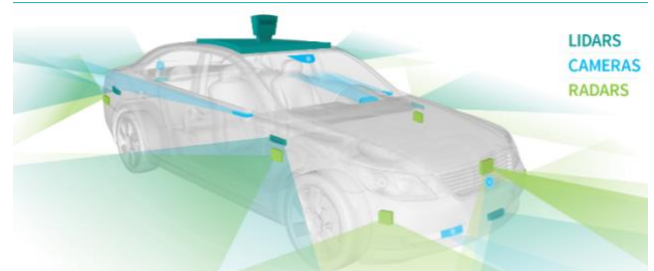
Figure 35 - Gentex's Mirrorless rearview camera monitoring



AUTONOMOUS VEHICLES

It could be argued that fully autonomous vehicles would eliminate the need for rearview mirrors. Firstly we think that the development of fully autonomous vehicles is still quite far away given the chaotic nature of the world. Secondly, we think that people will still want to on occasion drive their car so the car will need rearview mirrors for it to be operated by the driver. Furthermore, as previously stated we think Gentex is well positioned for autonomous vehicles and we see it as an opportunity not a risk. Finally if you look at figure 35m you will see the amount of cameras an autonomous vehicle needs this includes cameras at the rearview mirror locations and in-cabin monitoring all of which should be right in Gentex's wheelhouse.

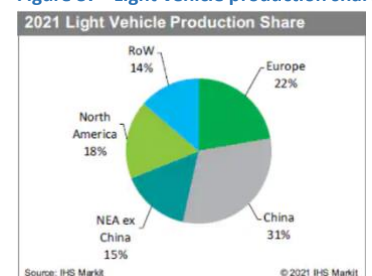
Figure 36 - Autonomous vehicle



CHINA

China continues to be a massive growth engine for automotive production. Along with that we have seen many new car companies started in China, many of which focus on electric vehicles. China is an extremely insular country and we could for see Chinese car manufacturers seeking out Chinese auto-suppliers. Some companies in China have been trying to develop auto-dimming technology and could pose a threat to Gentex in the future. Finally any escalation in the trade-war between the USA and China could negatively impact Gentex and reduce its price competitiveness. Finally Gentex does have factories and offices in China that are subject to the stringent zero-Covid policy that has impacted production and might do so again in the future.

Figure 37 - Light vehicle production share



VALUATION

The way we have approached valuing Gentex is to value the core business and not any of the emerging technologies we do not feel comfortable putting a value on that. Our general conclusions are that the core business of Gentex is fairly valued and the emerging technologies provide lots of “free options” embedded into the price.

We feel that we have been conservative throughout, including on the tax rate, we assume that Gentex pays the US corporate tax rate of 21%, however historically they have paid substantially less, in 2021 they paid 13.3% tax rate. In all of our scenarios SG&A come back to the long term average of 10% of revenues.

The discount rate of 10% is used in all of our discounted cashflows to provide comparable free cashflows and then we typically look for the share price target to offer a 50% margin of safety. We have used a free cash multiple as we think this is suitable for this type of mature business that is throwing off a lot of cash. In this commentary we have provided an EBITDA multiple for comparison but we don’t find it very instructive.

In our bear case we assume that there is no rebound in the production of light vehicles from the low levels caused by Covid and supply chain disruptions. We also assume that gross margins stay depressed never reaching the upper end of its long term range. We think that a terminal value of 15x free cash flow multiple is a very conservative number considering that the business currently trades at a 34x free cash flow multiple. For those that prefer an EBITDA multiple the 15x free cash flow multiple translates in about a 9x EBITDA multiple again very conservative for such a fantastic business.

In our base case we assume that there is a rebound in light vehicle production in 2023 and some sustained bounce in 2024 but after that growth goes back to trend. We assume that gross margins eventually make it up to the upper end of the long term range however does not make it passed 40% which we believe it could with further adoption of the FDM. Again we think a 16x free cash flow multiple (again about a 9x EBITDA multiple) is conservative and just below the long run average for the business.

GENTEX (GNTX), SHARE PRICE \$31.30, MARKET CAP: \$7,340MM, 31/05/22

Bear Case

\$mm					
	2022	2023	2024	2025	2026
Revenue	2,000	2,160	2,333	2,403	2,475
Gross Profit margin	36.00%	37.00%	37.00%	37.00%	37.00%
Gross Profit	720	799	863	889	916
SG&A/Revenue	11.00%	11.00%	10.00%	10.00%	10.00%
Operating profit	500	562	630	649	668
tax rate	21.00%	21.00%	21.00%	21.00%	21.00%
Operating profit after tax	395	444	498	513	528
Depreciation & Amertization (+)	110	108	117	120	124
Capital Expenditure (-)	175	173	187	192	198
Free Cash Flow	330	379	428	440	454
Discount Rate	10.00%	10.00%	10.00%	10.00%	10.00%
Present value	300	313	321	301	282

Terminal Value multiple P/FCF	15
Present Value at Terminal (+)	4,225
Present Value of Cash Flows (+)	1,517
Net Cash (+)	290
Market Cap	6,032
Shares outstanding	232,789,811
Share Price Target	\$25.91
Current Price	\$31.30
Upside	-17.21%

Base Case

\$mm					
	2022	2023	2024	2025	2026
Revenue	2,000	2,360	2,596	2,752	2,917
Gross Profit margin	36.00%	37.00%	38.00%	39.00%	39.00%
Gross Profit	720	873	986	1,073	1,138
SG&A/Revenue	11.00%	11.00%	10.00%	10.00%	10.00%
Operating profit	500	614	727	798	846
tax rate	21.00%	21.00%	21.00%	21.00%	21.00%
Operating profit after tax	395	485	574	630	668
Depreciation & Amertization (+)	110	118	130	138	146
Capital Expenditure (-)	175	189	208	220	233
Free Cash Flow	330	414	496	548	581
Discount Rate	10.00%	10.00%	10.00%	10.00%	10.00%
Present value	300	342	373	374	361

Terminal Value multiple P/FCF	16
Present Value at Terminal (+)	5,770
Present Value of Cash Flows (+)	1,750
Net Cash (+)	290
Market Cap	7,809
Shares outstanding	232,789,811
Share Price Target	\$33.55
Current Price	\$31.30
Upside	7.18%

Finally in our bull case we have sustained above trend growth in light vehicle production as OEMs try to make up for lost production and current low auto inventories. We assume that gross margins get to 40% but not above. Again we could foresee gross margins above 40% if there is higher demand for the FDM. We don't give a crazy terminal multiple but merely an above average one of 18x free cash flow (about a 11x EBITDA multiple).

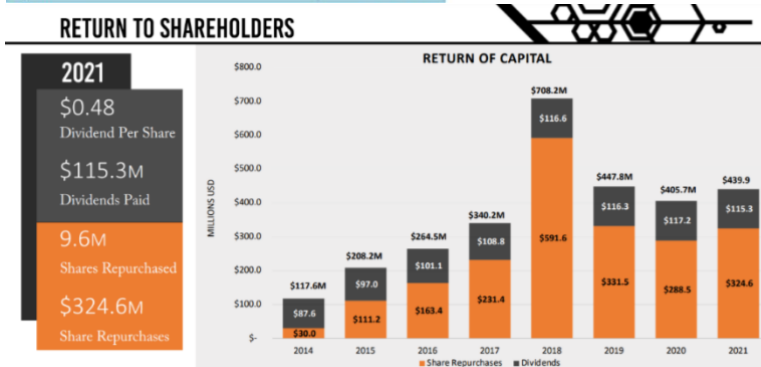
Gentex has a fantastic debt free balance sheet that is asset light. Historically Gentex has managed to earn returns on capital above 20% and returns on equity in the 15% - 20% range.

Finally Gentex has a long history of returning cash to shareholders via dividends and share repurchases and is starting to substantially eat into the outstanding shares.

Bull Case					
\$mm	2022	2023	2024	2025	2026
Revenue	2,200	2,684	3,006	3,247	3,441
Gross Profit margin	36.00%	37.00%	38.00%	39.00%	40.00%
Gross Profit	792	993	1,142	1,266	1,377
SG&A/Revenue	11.00%	11.00%	10.00%	10.00%	10.00%
Operating profit	550	698	842	942	1032
tax rate	21.00%	21.00%	21.00%	21.00%	21.00%
Operating profit after tax	435	551	665	744	816
Depreciation & Amertization (+)	110	134	150	162	172
Capital Expenditure (-)	175	215	240	260	275
Free Cash Flow	370	471	575	646	712
Discount Rate	10.00%	10.00%	10.00%	10.00%	10.00%
Present value	336	389	432	441	442

Terminal Value multiple P/FCF	18
Present Value at Terminal (+)	7,962
Present Value of Cash Flows (+)	2,041
Net Cash (+)	290
Market Cap	10,292
Shares outstanding	232,789,811
Share Price Target	\$44.21
Current Price	\$31.30
Upside	41.26%

Figure 38 - Shareholder return



CONCLUSION

In our opinion Gentex is a fantastic business that has a unique culture where management and employees have an owner-mind-set. Gentex has an incredible track record of innovation and we think that will continue with the entrepreneurial culture still going strong. We like Gentex's core business we think that it has high barriers to entry and defensible lead in technology. Moreover, Gentex is currently throwing a lot of new technologies many with huge opportunities that we think shareholders aren't paying for. We think that many analysts looking at Gentex see it as a boring single product auto supplier without seeing all of the innovation that has and continues to go on in the background. This is not a deep value opportunity and for many value investors it might not offer enough of a margin of safety. However, for those willing to pay up for quality we think this is a quality business.

White Loch Capital Management is a **fictitious** fund used for educational purposes only

Thanks for reading

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