

April 15, 2011 00:05 ET

GeckoSystems Eyeing Retail Loss Prevention Market for Mobile Robot Solutions

CONYERS, GA--(Marketwire - Apr 15, 2011) - GeckoSystems Intl. Corp. (PINKSHEETS: [GOSY](#)) announced today that their recent invention of the GeckoImager™, in concert with their proprietary "Mobile Robot Solutions for Safety, Security and Service™," enables the creation of assistant sales clerk mobile robots, or AscBots™, "to inform and observe™" shoppers in retail environments. GeckoSystems is a dynamic leader in the emerging mobile robotics industry revolutionizing their development and usage.

The strategic business need addressed by GeckoSystems' AscBot is to enhance the in-store shopper's experience to strategically position the retailer as better and different than their competitors. This will enable them to enjoy margins greater than their competitors while maintaining desired market share. This type of strategic marketing positioning is necessary to increase gross sales while reducing overall operational costs to increase net profits. Simultaneously, while increasing sales with in-store assistance and product promotions, the AscBot's mobile and intelligent video surveillance systems would dramatically reduce shrinkage due to internal and external theft. Simply stated, GeckoSystems AscBot would "inform and observe™" in retail stores.

GeckoSystems' proposed AscBot would be similar to a traditional customer service kiosk, but more cost-effective due to its mobility while providing intelligent, theft deterrent video surveillance. Product location service would be provided using graphical touch screen input with verbal and/or visual outputs. This AscBot benefit would interface with point-of sale (POS) store inventory control systems for location, pricing, and special offers available.

Product promotion would be verbal, visual and/or printed like an automated kiosk, but with self-guided, automatic mobility to be proximate to the consumer to enhance their shopping experience. Automatic printing of coupons as appropriate for the customer would enhance the shopper's experience by introducing new products, existing product specials, closeouts, etc. GeckoChat™ would enunciate product benefits, and videos of product benefits would be played. The onboard printer of the AscBot would print product sales literature with features and benefits and large print versions of normally fine print legally required notifications.

The AscBot would also function as an automated anti-shoplifting observation

system for a specific product, single or multiple aisle video surveillance. This would minimize blind spots typically inherent with fixed video surveillance systems and each AscBot could have one or more video cameras. These mobile cameras can be readily repositioned depending on changing, seasonal displays. The AscBot would use environment sensory system and distance proximity analyses for "actionable situational awareness" to invoke proprietary AI expert system paradigms for beneficial emergent behaviors. For example, the AscBot would automatically maintain a preset distance to shoppers per designated area for deterrence and enhanced video surveillance. The GeckoSavant AI software architecture can be integrated with off board facial recognition software to identify prior shoplifting suspects. The AscBot can automatically notify store management when probable shoplifting behaviors and/or persons are identified in pre-designated at-risk areas. The AscBot will readily integrate with existing video over IP surveillance systems.

The AscBot will be able to text designated store employees automatically and/or with verbal cell phone alerts. GeckoChat enables direct verbal interaction with the AscBot's for command and control on a contemporaneous basis.

The development of the AscBot will make extensive use of existing GeckoSystems technologies originally developed for the CareBot. While the AscBot will require a superset of the existing GeckoSystems capabilities, the additional functions required by the AscBot are currently available in off-the-shelf products that can be easily integrated into the existing GeckoSavant™ architecture.

Automatic self-navigation in a retail environment is closely related to navigation in the home environment, but not nearly as difficult as the CareBot's typical fragile and tight home environment. The existing GeckoNav savant is therefore well-suited for use in a retail environment. The autopilot seek function of GeckoNav allows the AscBot to approach customers once they have been identified. The Patrol function allows the AscBot to move up and down an aisle or between multiple aisles and be "on station" when no customers are present. From the very beginning, GeckoNav has been designed with safety as a primary concern. Of course this is a major requirement when placing a mobile service robot in a public location.

The locomotion system designed for the CareBot is also well-suited to the retail environment. The smooth floors designed for traversal by a shopping cart should present no difficulties for the existing locomotion system. The GeckoMotorDriver™ will be utilized on the AscBot to power the differential drive motors. The AscBot will also make use of the newly revised and enhanced GeckoMotorController. The higher top speeds and increased control granularity enabled by the recent revision of this technology are both very important for its usage in the AscBot.

GeckoImager will be incorporated in the AscBot to provide the sensor data necessary for navigation. The update rate provided by GeckoImager is sufficient to allow for navigation among moving people. GeckoImager can also be readily extended to incorporate additional sensors to provide 360-degree coverage. This additional information would be used to enhance the AscBot's situational awareness and allow for faster navigation in the tight quarters of a store aisle crowded with customers.

GeckoTrak will provide the ability to follow and/or track customers in an aisle. Upgrades and extensions to GeckoTrak are planned to tailor it to the retail environment. This capability allows the AscBot to approach customers in the aisle in order to interact with them. It will be able to store personnel of a customer that may need additional assistance or is behaving suspiciously by loitering too long.

The speech recognition and synthesis capabilities of GeckoChat will also be a vital part of the AscBot. This capability allows customers to interact with the mobile robot kiosk, asking it questions about sales, products, or the store. Customers will be able to use the AscBot to request assistance from a store clerk. GeckoChat is designed to allow modification of the words and phrases used for both recognition and synthesis with little effort. Adding the appropriate words and phrases to a database is all that is required to allow GeckoChat to be used on the AscBot.

GeckoScheduler™ can be used to activate the AscBot when the store opens and put it into a dormant state at closing time. Timely messages such as warnings regarding store closing can also be initiated using GeckoScheduler. Patrol patterns or behaviors of the robot can be modified based on the time of day appropriate.

The interactive display will be provided by a touch screen or by a tablet PC. The touch screen can either be connected to an existing onboard computer or a full point-of-sale system. Any of these three options can be readily connected to the AscBot's onboard network to interface with the other GeckoSystems savants. This display allows the AscBot to show targeted advertising or product information. The touch screen will allow the customer to browse store information or print coupons.

Presently existing receipt printer technology can be used to provide on-demand coupon printing on the AscBot. These devices typically interface using RS232 serial, USB or Ethernet connections, all of which can be supported using current GeckoSystems technology. The GeckoSPIO's power management capabilities can be used to turn the printer off when no customers are nearby, reducing power consumption.

Additional cameras may be added to enhance the surveillance capability. Both

USB and Ethernet based cameras can be added to the AscBot without any modifications to existing systems. These cameras can interface with on-site fixed IP security camera systems by connecting the AscBot to the store's existing network.

Interfacing with these various devices is made possible by the robustness and extensibility of the GeckoSystems' software and hardware architecture. By utilizing a combination of onboard computers and the GeckoSPIO, a wide array of connection types and protocols are supported. Devices such as printers, screens, Bluetooth enabled devices, WiFi devices, and Ethernet based devices can all be interfaced with the onboard computers. Devices that communicate using analog, I2C, SPI, or RS232 serial can also be interfaced with the GeckoSPIO.

The GeckoSystems software architecture is designed to allow for easy addition of new devices or software. Any new device can immediately communicate with any device on the network once it is interfaced with the GeckoSuper. We have recently exercised this capability with the addition of the GeckoImager savant. This modular and flexible proprietary software and software architecture is what makes GeckoSystems' technology unique from most other mobile robot companies. It gives GeckoSystems a definitive competitive advantage in the marketplace.

"The AscBot is an extraordinary opportunity to introduce an innovative product of tremendous benefit to both retailer and consumer. I look forward to working on the extensions to our existing technologies and integration of new devices that will enable us to bring this cutting edge, cost-reducing product to retailers," summarized Kevin O'Connor, Sr. EE Robotacist, GeckoSystems.

The security systems services industry in the US includes about 5,000 companies with combined annual revenue of around \$14 billion. Major companies include ADT Security Services (owned by Tyco International), Protection One, and Broadview Security (formerly Brink's Home Security). IBM, HP and NCR are but three of the most noteworthy giants in the retail POS hardware and software industry.

"We recently anecdotally learned that some grocery stores suffer \$100,000 per month in shrinkage. If our proposed AscBot reduces that figure by only 25%, the AscBot would pay for itself in an astonishing 2 to 3 months. This heralds to the initial industrial robot application of car painting and the dramatic reduction in repainting 1 out of 4 of all new cars. Due to that reality in the late 1960s and early 1970s, industrial robot manufacturers, such as Unimation, could not build their robots fast enough to meet demand in the automotive industry.

"We are very pleased with the hard work, long hours, and many years invested by our team of engineers and programmers to produce our 'mobile robot solutions

for safety, security, and service™.' Once again we witness that our suite of proprietary technologies is not only appropriate for the consumer, and professional healthcare markets, but also the business-to-business market place of commercial security loss prevention. This new B2B market niche augurs well for increased ROI and shareholder value for our nearly 1400 investors," concluded Spencer.

Loss Prevention Industry Highlights:

Loss Prevention is the concept of establishing policies, procedures and business practices to prevent the loss of inventory or monies in a retail environment.

Internal (employee) theft is the largest contributor to loss for most retailers, regardless of size or segment. Although some may wonder why employee theft would be the largest category of loss, hands down, every survey, study and comparison across segments has shown time and time again that those who steal from a business the most are employees. Employee theft occurs through many different methods. From simple merchandise theft to collusion with friends or other store employees, inventory losses by employees easily deplete profits (and the merchandise available for sale to customers).

Internal theft occurs most frequently when they are unobserved by fixed surveillance video cameras, or other, trustworthy employees. The AscBot would diminish these kinds of opportunities since automatic and vigilant in those areas at greatest risk.

External theft is often caused by shoplifting, break-ins, robberies or other acts by outside sources. Although it does not cause as much loss overall compared to internal theft, shoplifting and external theft most certainly causes a substantial amount of loss annually to the retail industry. In today's world, it is critical for retailers to have their point-of-sale system synchronized with their video surveillance so issues can be identified and incidents quickly analyzed.

About GeckoSystems International Corporation:

Since 1997, GeckoSystems has developed a comprehensive, coherent and sufficient suite of hardware and software inventions to enable a new type of home appliance (a personal companion robot) the CareBot™, to be created for the mass consumer marketplace. The suite of primary inventions includes: GeckoNav™, GeckoChat™ and GeckoTrak™.

The primary market for this product is the family for use in eldercare, care for the chronically ill and childcare. The primary distribution channel for this new home appliance is the thousands of independent personal computer retailers in the U.S. The manufacturing infrastructure for this new product category of mobile service robots is essentially the same as the personal computer industry. Several outside

contract manufacturers have been identified and qualified their ability to produce up to 1,000 CareBots per month within four to six months.

By the end of this year, the Company plans to complete productization of its CareBot™ offering with the introduction of its fourth generation personal robot, the CareBot™ 4.0 MSR. The Company expects to be the first personal robot developer and manufacturer in the world to begin in-home eldercare evaluation trials.

The present senior management at GeckoSystems has more than 35 years experience in consumer electronics sales and marketing, and product development. Senior managers have been identified for the areas of manufacturing, marketing, sales, and finance.

About the CareBot™ MSR:

The CareBot™ has proven to be ideal for the Consumer Family care market (care for children and the elderly), which has been chronicled in articles from <http://www.psychologytoday.com/blog/adventures-in-old-age/200906/the-robots-have-dawned-meet-the-carebot> and <http://cgmasi.com/eyeontechnology/2009/06/personal-robots-to-monitor-elderly-vital-signs.html>. In this market, MSRs serve as a cost-effective alternative to nursing assistance or assistance living residency. The estimated savings total can exceed tens of thousands of dollars.

The CareBot™ MSR enables intelligent monitoring by automatically following the care receiver from room to room on-site and enables the caregiver a visual and auditory presence to better watch over and assist their needs. It is capable of providing telepresence or conducting "Virtual Visits" allowing the parents to view their children, or adult children to monitor their frail parents from any location with Internet access. CareBots also serve as automatic reminders informing care receivers of appointments, visitors (invited and/or unexpected) and other events (i.e. taking medications, family anecdotes, favorite Bible verses, watching television programs).

Like an automobile, mobile robots are made from steel, aluminum, plastic, and electronics, but with ten to twenty times the amount of software running. The CareBot has an aluminum frame, plastic shroud, two independently driven wheels, multiple sensor systems, microprocessors and several onboard computers connected in a local area network (LAN). The microprocessors directly interact with the sensor systems and transmit data to the onboard computers. The onboard computers each run independent, highly specialized cooperative/subsumptive artificial intelligence (AI) software programs, GeckoSavants, which interact to complete tasks in a timely, intelligent and common sense manner. GeckoSuper, GeckoNav, GeckoChat, GeckoScheduler and

GeckoTrak are primary, high level GeckoSavants. GeckoNav is responsible for maneuvering, avoiding dynamic and/or static obstacles, seeking waypoints and patrolling. GeckoChat is responsible for interaction with the care-receiver such as answering questions, assisting with daily routines and reminders, and responding to other verbal commands. GeckoTrak, which is mostly transparent to the user, enables the CareBot to maintain proximity to the care-receiver using sensor fusion. The CareBot is a new type of Internet appliance, a personal assistant robot that is accessible for remote video/audio monitoring and telepresence.

More detailed information explaining what the CareBot is seeing and thinking, while beneficial, would be misleading since machines do not "see and think." They read sensors and then compute responses. The "appearance" of seeing and thinking is an organic capability, not a machine's. So the mobile robot platform gathers distance data to objects in its environment, determines if they are obstacles, and then computes the necessary wheel speeds to successfully avoid that obstacle.

GeckoSystems has several breakthrough technologies -- not just the GeckoImager -- in concert with the Kinect, and all the other necessary mobile robot solutions, such as their GeckoSavants, to have a complete, cost-effective and multifunctional product. Due to the robustness of GeckoSystems' biological hierarchal architecture, GeckoNav being "sensor loving," and the recent invention of GeckoImager, the Company has strengthened its "first mover" position in this emerging trillion-dollar industry.

ResearchAt the time of founding, nearly 14 years ago, GeckoSystems did extensive primary market research to determine the demographic profile of the early adopters of the then proposed product line. Subsequent to, and based on that original market research, they have assembled numerous focus groups to evaluate the fit of the CareBot™ personal robot into the participant's lives and their expected usage. The Company has also frequently employed the Delphi market research methodology by contacting and interviewing senior executives, practitioners and researchers knowledgeable in the area of elder care. Using this factual basis of internally performed primary and secondary market research, and third-party research is the statistical substance for the Company's sales forecasts.

Not surprisingly, the scientific statistical analysis applied revealed that elderly over 65 living alone in metropolitan areas with broadband Internet available and sufficient household incomes to support the increased costs were identified as those most likely to adopt initially. Due to the high cost of assisted living, nursing homes, etc., the payback for a CareBot™ is expected to be only seven to nine months, while keeping elderly care receivers independent, in their own long-time homes, and living longer due to the comfort and safety of more frequent attention from their loved ones.

The Projected Consumer Market Size In Dollars For Cost Effective, Utilitarian, Multitasking Eldercare Personal Robots:

Year	Market Size
2012	\$74 billion
2013	\$77 billion
2014	\$80 billion
2015	\$83.3 billion
2016	\$86.6 billion

Estimated Market Penetrations and Project Sales:

Year	Percentage	Projected Sales
2012	0.06%	\$22 million
2013	0.03%	\$44 million
2014	0.22%	\$176 million
2015	0.53%	\$440.2 million
2016	0.81%	\$704.3 million

Source: U.S. Census Bureau; GeckoSystems

The Company expects these sales despite -- and perhaps because of -- the present recession due to pent up demand for significant cost reduction in eldercare expenses. The foregoing forecasts do not include sales in non-metropolitan areas, elderly couples over 65 (only elderly living alone are in these forecasts), those chronically ill (regardless of age), or elderly living with their adult children.

The Company's "mobile robot solutions for safety, security and service™" are appropriate not only for the consumer, but also professional healthcare, commercial security and defense markets. Professional healthcare require cost effective, timely errand running, portable telemedicine, etc. Homeland Security requires cost effective mobile robots to patrol and monitor public venues for weapons and WMD detection. Military users desire the elimination of the "man in the loop" to enable unmanned ground and air vehicles to not require constant human control and/or intervention.

What Does a CareBot™ Do for the Caregiver?

The short answer is that it decreases the difficulty and stress for the caregiver that needs to watch over Grandma, Mom, or other family members most, if not much, of the time day in and day out due to concerns about their well being, safety, and security.

But, first let's look at some other labor saving, automatic home appliances most of us use routinely. For example, needing to do two or more necessary chores and/or activities at the same time, like laundering clothes and preparing supper.

The automatic washing machine needs no human intervention after the dirty clothes are placed in the washer, the laundry powder poured in, and the desired wash cycle set. Then, this labor saving appliance runs automatically until the washed clothes are ready to be placed in another labor saving home appliance, the automatic clothes dryer. While the clothes are being washed and/or dried, the caregiver prepares supper using several time saving home appliances like the microwave oven, "crock" pot, blender, and conventional stove, with possible convection oven capabilities.

After supper, the dirty pots, pans, and dishes are placed in the automatic dishwasher to be washed and dried while the family retires to the den to watch TV, and/or the kids to do homework. Later, perhaps after the kids have gone to bed, the caregiver may then have the time to fold, sort, and put up the now freshly laundered clothes.

It is a new type of labor saving, time management automatic home appliance. For example, the caregiver frequently feels time stress when they need to go shopping for 2 or 3 hours, and are uncomfortable when they have to be away for more than an hour or so. Time stress is much worse for the caregiver with a frail elderly parent that must be reminded to take medications at certain times of the day. How can the caregiver be away for 3-4 hours when Grandma must take her prescribed medication every 2 or 3 hours? If the caregiver is trapped in traffic for an hour or two beyond the 2 or 3 they expected to be gone, this "time stress" can be very difficult for the caregiver to moderate.

Not infrequently, the primary caregiver has a 24 hour, 7 days a week responsibility. After weeks and weeks of this sometimes tedious, if not onerous routine, how does the caregiver get a "day off"? To bring in an outsider is expensive (easily \$75-125 per day for just 8 hours) and there is the concern that medication will be missed or the care receiver have an accident requiring immediate assistance by the caregiver, or someone they must designate. And the care receiver may be very resistant to a "stranger" coming in to her home and "running things."

So what is it worth for a care receiver to have an automatic system to help take care of Grandma? Just 3 or 4 days a month "off" on a daylong shopping trip, a visit with friends, or just take in a movie would cost \$225-500 per month. And that scenario assumes that Grandma is willing to be taken care of by a "stranger" during those needed and appropriate days off.

So perhaps, an automatic caregiver, a CareBot™, might be pretty handy, and

potentially very cost-effective from the primary caregiver's perspective.

What Does a CareBot™ Do for the Care Receiver?

It's a new kind of companion that always stays close to them enabling family and friends to care for them from afar. It tells them jokes, retells family anecdotes, reminds them to take medication, reminds them that family is coming over soon (or not at all), recites Bible verses, plays favorite songs and/or other music. It alerts them when unexpected visitors or intruders are present. It notifies designated caregivers when a potentially harmful event has occurred, such as a fall, fire in the home, or simply when the care receiver has not been found by the CareBot™ for too long. It responds to calls for help and notifies those that the caregiver determined should be immediately notified when any predetermined adverse event occurs.

The family can customize the personality of the CareBot™. The voice's cadence can be fast or slow. The intonation can be breathy, or abrupt. The voice's volume can range from very loud to very soft. The response phrases from the CareBot™ for recognized words and phrases can be colloquial and/or unique to the family's own heritage. The personality can range from brassy to timid depending on how the caregiver, and others appropriate, chooses it to be.

Generally, the care receiver is pleased at the prospect of family being able to drop in for a "virtual visit" using the onboard webcam and video monitor for at home "video conferencing." The care receiver may feel much more needed and appreciated when their far flung family and friends can "look in" on them anywhere in the world where they can get broadband internet access and simply chat for a bit.

Why is Grandma really interested in a CareBot™? She wants to stay in her home, or her family's home, as long as she possibly can. What's that worth? Priceless. Or, an average nursing home is \$5,000 per month for an environment that is too often the beginning of a spiral downward in the care receiver's health. That's probably \$2-3K more per month for them to be placed where they really don't want to be.

Financial payback on a CareBot™? *Less than a year.* Emotional payback for the family to have this new automatic caregiver? *Nearly instantaneous.*

Facebook: <http://www.facebook.com/group.php?gid=140182685996116&v=wall>

YouTube: CareBot demo videos from Rockdale Magnet FIRST Robotics Team's visit <http://www.youtube.com/watch?v=1FW8rmV2hDE> <http://www.youtube.com/watch?v=hemWWCEzXBch> <http://www.youtube.com/watch?v=cchwtwLd33E> <http://www.youtube.com/watch?v=bmmxzdaAiGE>

Kinect Enabled Personal Robot video:<http://www.youtube.com/watch?v=kn93BS44Das>In this video one will observe static and dynamic obstacle avoidance into and back out of a cluttered and narrow "gauntlet alley." One may determine that the movements are smoother than what most people could do using a joystick, human controlled mobile platform. One will witness three low levels of obstacle avoidance: reactive, proactive, and contemplative. No prior mapping or path planning was performed before or during the demonstration run. GeckoNav, the AI savant doing the guiding, controls all mobile activities during this demo. You will witness subsumptive AI behaviors occurring as obstacle avoidance subsumes way point seek and vice versa with an emergent behavior expressed as errand running down a cluttered hallway and back without any human intervention.

Elder Care Robot Trial Video 2, Stationary View

http://www.youtube.com/watch?v=smUNIs4LJtY&feature=player_embedded#at=16

One CareBot™ One Familyhttp://www.youtube.com/watch?v=xxK46chfP6A&feature=mfu_in_order&list=UL

http://www.youtube.com/watch?v=xxK46chfP6A&feature=mfu_in_order&list=UL

Mobile Robot Navigates Dining Room & Kitchen

http://www.youtube.com/watch?v=S_jd9_0W9mE&feature=mfu_in_order&list=UL

Safe Harbor:

Statements regarding financial matters in this press release other than historical facts are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934, and as that term is defined in the Private Securities Litigation Reform Act of 1995. The Company intends that such statements about the Company's future expectations, including future revenues and earnings, technology efficacy and all other forward-looking statements be subject to the Safe Harbors created thereby. The Company is a development stage firm that continues to be dependent upon outside capital to sustain its existence. Since these statements (future operational results and sales) involve risks and uncertainties and are subject to change at any time, the Company's actual results may differ materially from expected results.