For Immediate Release:

GeckoSystems Augments Mobile Robot Navigation Software

ATLANTA, GA, July 30, 2008 (WORLD STOCK WIRE) -- GeckoSystems Intl. Corp. (PINKSHEETS: GCKO) announced today that they have completed the development and testing of their advanced intelligent mobile robot navigation software, GeckoNav™ 3.7. GeckoSystems is a dynamic leader in the emerging Mobile Service Robot (MSR) industry revolutionizing their development and usage with *mobile robot solutions for safety, security, and service™*.

The newly enhanced GeckoNav enables faster, more graceful passage through loose crowds of moving people as in public areas. “Our sensor loving, fully autonomous and adaptive AI software, GeckoNav, now performs even faster to sense and avoid collisions, without human intervention. GeckoNav now enables even higher patrolling speeds and faster errand running for greater utility and efficiency. This enables a quicker payback for our end users and OEM partners and increased ROI for our investors,” remarked R. Martin Spencer, President/CEO.

GeckoNav accepts sensor reading inputs at over 250Hz and outputs steering and locomotion commands at over 40Hz using a low power 500Mhz x86 Mini-ITX computer. GeckoNav has situational awareness with numerous emergent, beneficial avoidance behaviors.

GeckoNav's Core Capabilities:
1. Subsumptive software architecture enabling cognizant navigation for unexpected obstacle (static or dynamic) avoidance while "on path" with the ability to resume path following.

2. Sensor fusion technology such that the GeckoNav is sensor loving. By utilizing multiple sensor systems (like a blind man listening and counting steps while using a cane, uses two senses --tactile and hearing-- to routinely navigate known, and unknown, environments) the GeckoNav’s AI software architecture enables differing, high count sensor systems synergy.

3. Short term AI memory software such that GeckoSystems’ proprietary sensor fused, scanning CompoundedSensorArray may be fully utilized. Consequently, total cost for sensor systems cost is dramatically reduced.

4. Emergent behaviors expression (which are not pre-programmed) such as the left/right routine when encountering a dynamic obstacle that moves to the same side that the robot has chosen to use to avoid the now confounding obstacle. The robustness of this emergent behavior is apparent as the robot finally, after several left/right attempts, succeeds in avoiding the dynamic obstacle, and resumes path.

The resultant level of mobile autonomy can be likened to that of a "blind man with a cane in his own home" or “loose crowd capable.” All GeckoNav source code is in C++ and is not hardware or OS centric.

Some Fundamental Issues of Automatic Self-navigation in Dynamic Environments

Background:
For any Mobile Service Robot (MSR) to have probable hope of utility, it must have the intrinsic and timely ability to avoid unforeseen, dynamic obstacles and still reach its desired endpoints or physical locations. Many MSR prototypes are limited by their navigation software architecture. Historically, MSR architectures have been based on either a pre-set path following technique, where the sensors are only used to detect failure of the preprogrammed path, or they have used a purely reactive technique that has no concept of the larger world that the MSR inhabits and cannot be used for useful tasks.

The path-following techniques suffer from being unable to adapt to changing conditions quickly or smoothly. The MSR basically travels blind until it is about to hit something, and once it has detected an obstacle, the resulting decisions required are very complex. As a result, the environment must be highly structured to avoid confusing the MSR so that simple decisions will suffice or a lot of computing power must be available to maintain and compute path alternatives. Requiring a highly structured environment reduces the usefulness and flexibility of such a MSR in

a human environment. In addition, the need for a lot of processing power makes MSRs really expensive and their useful "on" time very short due to the power required for the “high clock” CPU or PC typically on board.

Further, the purely reactive architectures suffer from having little sense of past events, future goals, or of even where exactly the MSR is within the world. Typically such MSRs have no memory of the world that they have traveled and "live" only instant to instant. They may reach a particular destination, but it is by pure chance and the MSR will not be able to recognize that it has reached the desired destination without providing a modified environment (e.g. beacon techniques such as the legendary Arctec Systems’ *Gemini*, Evolution Robotics *ER-1* and others). In its pure form, something seen in many toy robots, this technique is almost useless for true automatic self-navigation or tasks in a dynamic human environment. This kind of MSR is typically characterized by its use of binary IF-THEN rules like "If bumped left then turn right". Such an architecture does not scale for the multiple sensors required for Cognizant Navigation. Cognizant Navigation is the ability to find locations repeatedly upon request without hitting unexpected obstacles.

Cognizant Navigation is a non-trivial problem that has a number of facets. There must be enough sensor information of the right kind to not hit large obstacles such as walls, furniture, and people. There must also be enough sensor information to avoid smaller obstacles such as toys. Furthermore, the navigation engine must be able to react to quick local changes without losing track of its task. The MSR must also have a memory of where it is within the world and be able to repeatedly find locations within that world even if there are unexpected obstacles. This means that there must be enough processing power and RAM to accomplish this while still having enough battery life to stay active for many hours while performing useful tasks like vacuuming or carrying more than a trivial sized load. These important capabilities are the basic, required foundation for useful MSRs in a human environment. Until the CareBot, almost all consumer MSRs have fallen short in one or more of these areas.

Cognizant Navigation is much more than the simple reactive, bump-turn mobile robot behaviors seen in most traditional, or legacy mobile robots. Such a robot may reach the goal, but isn't "aware" that it is attempting to reach that goal and can't recognize it when located. Other legacy mobile robots blindly follow line segment paths like virtual train tracks and may be "aware" that they are trying to reach a goal, but they have problems when reacting to new situations that require deviation from the planned route due to their limited sensors and available CPU power. Typically, these robots cannot sense obstacles until they actually run into them!

Are these MSRs cognizant? Cognizant means to be aware or have conscious knowledge. The word "aware" implies the MSR remembers where it is, where it was, where it is "supposed" to be going, as well as being aware of immediate changes in the environment that may require a response. Humanlike short term and long memory management, along with enough sensor information, is the key to resolving this problem. Your existing PC has the raw computing power, memory, and data storage needed for robust personal MSR cognizant navigation, scheduling of areas to be vacuumed, and much, much more.

GeckoSystems’s (GSI) GeckoNav™ is different. Its Biological Hierarchical Architecture provides the benefits of both control and reaction within a single framework without the disadvantages of either technique alone. As a result, it is able to respond quickly and intelligently to short term navigation situations while still providing the ability to guide the MSR toward accomplishing useful tasks within a map of the world that the MSR maintains. It turns out that this approach is synergistic and reduces the complexity of trying to "force fit" either of the other traditional solutions to solve the whole problem.

Biological Hierarchical Architecture is a GeckoSystems proprietary MSR navigation software scheme incorporating several advanced artificial intelligence (AI) methods such that together vote on the best solution. It should be noted that “sufficient” sensors for navigating a home environment while avoiding unexpected obstacles is a critical prerequisite.

Sensors - Why Other MSRs Bump into Walls, Chairs, Tables, etc.

Many available MSRs are limited by their sensor count, position and/or interpretation strategy. MSR sensors such as bump switches, feelers, and whiskers have the problem that they cannot sense their environment without actually colliding with the world. Fixed single sonar and infrared distance (IR) range finders are an improvement, but individually they give very little information about the surrounding world. They may help avoid running into an obstacle directly in front of the MSR in one narrow direction, but they aren't very useful in helping the MSR

navigate. There are too many directions from which unseen problems can approach, and even if the obstacle is detected, it is practically impossible tell the true extent of the obstacle and what the response should be from that single datapoint.

Even having many different kinds of these sensors does not necessarily solve this problem. The MSR must be able to assess the current space around the MSR to enable robust navigation, and to do that the MSR must have enough information of the right kind, not just many arbitrary sensors. Expensive research MSR manufacturers understand this need, and solve this problem through a very costly array of multiple sonar and IR sensors or even more expensive machine vision systems and/or laser rangefinders interpreted by either CPU intensive computations, or by quicker neural nets that can be easily over trained and become brittle in their ability to reliably discern fixed and/or moving, unforeseen obstacles.

GeckoSystems's solution to this problem uses high-data, low cost fixed sonars and scanning IR sensors in an array called the CompoundedSensorArray™. The CSA can image the surrounding space in 250-275 different directions, not just one single direction like a single fixed sensor. This is actually more advanced than most research MSRs in this respect, which in contrast can generally sense between only 7 to 16 unique obstacle positions on the forward half of the MSR. This is an increase in resolution of 15 to 40 times over such MSRs! The reason for this is that such MSRs tend to assume and operate in fairly structured environments, like offices, empty campus hallways and contest mazes and as a result encounter fewer challenges in their environments. In contrast, GSI's basebot technologies have been designed and tested for typical home environments from the beginning.

About GeckoSystems International Corporation:
In the ten years since founding, the Company has developed a suite of proprietary, fundamental technologies that enable their robots to automatically self-navigate the home or workplace using advanced sense and avoid technologies for reliable, unattended collision avoidance while patrolling, following and/or errand running. These scientifically developed, tested, and proven hardware and software breakthroughs enable the practical, low cost manufacture, sale and usage of mobile service robots in a variety of environments.

Their mobile robot solutions are appropriate for the consumer, professional healthcare, commercial security, public safety, and defense markets. The consumer has needs for family care assistance with remote monitoring and notification. Professional healthcare needs night time errand running, portable telemedicine, etc. Homeland Security needs mobile robots patrolling public and/or privates venues with WMD and small arms weapon detect. Many commercial and military users desire the elimination of the "man in the loop" to enable unmanned ground and air vehicles such as driverless automobiles (or "cybercars"), trucks, and drone aircraft –-presently teleoperated-- to not require any human intervention.

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The consumer has needs for family care assistance with remote monitoring and notification. This is for family care for the elderly, chronically ill, and children. Since GeckoTrak™ enables the CareBot to automatically follow a designated care receiver using sensor fusion; it allows the caregiver to remotely see how they are doing using the onboard wireless webcam. Should the designated family member not respond to their CareBot's inquiries, GeckoChat™ would contact the caregivers forthwith by telephone.

Professional healthcare needs cost effective night time errand running, portable telemedicine, etc., enabling specialist nurses to be more efficient and productive with less work by allowing them to video conference (telepresence) doctors for more timely, "on the spot," diagnosis of patients. The CareBotPro™ can carry all the specialized supplies and equipment the IV or wound care nursing specialists might need. At night the MSR can deliver bedpans, medications, even take vital signs, etc. to those in need while the night shift nurses are busy with a crisis, or other important duties on their wing or floor.

Homeland Security needs mobile robots patrolling public venues with WMD and small arms weapon detect. This deployment would dramatically improve public safety in our post 9/11 world at lower cost and greater efficiencies than human guards only. For example, human guards would tire quickly hauling multiple WMD detection systems. GeckoSystems' SecurityBot™ MSR's would not.

Commercial and military users desire the elimination of the “man in the loop” to enable unmanned ground and air vehicles such as driverless automobiles, trucks, and drone aircraft to not require routine, constant or not infrequent, human control. GeckoSystems' advanced family of hardware and AI software technologies can enable MSR’s that can explore urban dwellings with high levels of situational awareness due to multiple layers of sensor fusion, while looking for human inhabitants --automatically-- without any human invention or control. This can save lives by placing our troops back one or more steps from an unforeseen ambush.

Intelligent mobile service robots are over 80% software. What truly differentiates GeckoSystems from the rest of the world is their incredibly fast, automatic self-navigation software, GeckoNav. Without going into the details of real-time mapping, cognizant navigation, planned path patrol, sensor fusion, short-term memory, situational awareness, and other "buzz words," GeckoNav makes possible automatic patrolling and navigation in peopled or dynamic environments, “out of the box” automatic learning of surroundings, and safe control of the MSR. GeckoNav is the primary artificial intelligence (AI) engine of all their mobile robot products. Regarding maintenance and technical support, GeckoZap™, the diagnostic and compliance software tool provides critical calibration and diagnostic capabilities to service personnel in a single package, further reducing maintenance and support costs.

GeckoChat provides real-time voice synthesis and recognition coupled with scheduling, natural language processing and expert systems to achieve a complete verbal interaction package. Developed for use in the home environment, especially in the context of elder care, the benefits of GeckoChat include programming by the family, verbal reminders of past, present, and future events, surrogate short-term memory, verbal control of the robot, and verbal confirmation of critical events such as medicine or other medical regimes. However, GeckoChat can be easily extended to handle nearly any verbal task for mobile robot control.

GeckoTrak is their real-time color machine vision system with object tracking, motion vector detection using sensor fusion with sonar range finding, and body heat infrared detection. All this enables an equipped MSR to, for example, recognize and follow individuals in the home or detect and pursue intruders in a public safety or commercial security setting, automatically, without human intervention.

The CareBot:
For a non technical discussion of what a GeckoSystems' CareBot does, 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.

Much like these useful and cost effective appliances, a CareBot helps the caregiver as 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 who 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.

The care receiver's perception of a CareBot is much different from the caregiver's. 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 just not found by the CareBot for too long a time. And it responds to calls for help and notifies those that the caregiver determined should be immediately notified when any anticipated 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 any where 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 $4,500 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.

Mission Statement:
GeckoSystems' vision is to create practical mobile robot solutions for personal, business, and government use. We are committed to deliver service robots of high quality that safe, cost effective, and gratifying for all stakeholders.

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. Except for historical information contained herein, the statements in this news release are forward-looking statements that are made pursuant to the safe harbor provisions of 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. Forward-looking statements involve known and unknown risks and uncertainties, which may cause a company's actual results, performance and achievement in the future to differ materially from forecasted results,

performance, and achievement. 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. The Company undertakes no obligation to publicly release the result of any revisions to these forward-looking statements that may be made to reflect events or circumstances after the date hereof, or to reflect the occurrence of unanticipated events or changes in the Company's plans or expectations.

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