



Testimony of Richard “Dick” W. McDonald, CP, PLS
on behalf of the
Management Association for Private Photogrammetric Surveyors (MAPPS)
before the
Subcommittee on Fisheries, Wildlife, Oceans and Insular Affairs
Committee on Natural Resources
U.S. House of Representatives

H.R. 1399, “Hydrographic Services Improvement Amendments Act of 2013”
Reauthorization of the Hydrographic Services Improvement Act
June 13, 2013

Mr. Chairman, I am Dick McDonald, Director of Federal Services for T3 Global Strategies, Inc. in Bridgeville, PA. It is my honor to serve as President of MAPPS, the national association of private geospatial firms. It is in that capacity that I am privileged to appear before you today. I am a Professional Surveyor and Certified Photogrammetrist with more than 30 years of professional level, private practice experience.

T3 Global Strategies has experience providing professional services to clients throughout the continental U.S. and in some cases, overseas. These professionals are licensed and certified in their respective fields. Our scope of services includes all aspects of surveying, photogrammetry, data conversion, GIS and public safety. My firm provides a full spectrum of professional geospatial services to civil and environmental engineering firms, architectural disciplines, Marcellus Shale permitting, mining, oil, gas and utilities industries, county and local governments, Departments of Transportation, the U. S. Army Corps of Engineers and the public safety and defense sectors.

Formed in 1982, MAPPS (www.MAPPS.org) is the only national association exclusively comprised of private firms in the remote sensing, spatial data and geographic information systems field in the United States. The current MAPPS membership of more than 160 firms spans the entire spectrum of the geospatial community, including Active Member Firms engaged in satellite and airborne remote sensing, surveying, photogrammetry, aerial photography, hydrography, charting, aerial and satellite image processing, GPS, and GIS data collection and conversion services. MAPPS also includes Associate Members Firms, which are companies that provide hardware, software, products and services to the geospatial profession in the United States and other firms from around the world. MAPPS provides its members opportunities for networking and developing business-to-business relationships, information sharing, education, public policy advocacy, market growth, and professional development and image enhancement.

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As I begin, first let me commend this Subcommittee for its leadership in creating the hydrographic survey contracting program in NOAA, through the original Hydrographic Services Improvement Act, and its subsequent amendments and reauthorization. Were it not for the leadership of Mr. Young of Alaska, and many other former and current members, on a bipartisan basis, there would not be progress on the survey backlog or reform of NOAA.

HSIA has been a success. The “survey backlog” of 43,000 square nautical miles (SNM) of critical areas has been significantly reduced. To date, surveys of more than 28,000 SNM have been completed.

Furthermore, MAPPS commends NOAA for its application of the “Brooks Act” (40 U.S.C. 1101 et. seq.), to provide for qualifications based selection of its shore line, coastal remote sensing, hydrographic surveys and related contractors. This time-tested and proven process assures that contractors are selected based on demonstrated competence and qualifications, not the lowest price. This is a highly competitive process that permits NOAA to evaluate firms based on their track record, past performance, capabilities, and qualifications first, and then negotiate a price that is fair and reasonable to the government with the most qualified firm, or if a price cannot be negotiated, go on to the second ranked firm. For services such as hydrographic surveys and other geospatial services, where the public health, welfare and safety are at stake, the Brooks Act is the only way to go.

For the hydrographic services that NOAA contracts, as well as other geospatial activities, we believe the agency is highly satisfied. Private firms have been innovative in staffing, scheduling, applying technology, and deployment to ensure that the government receives value for its money.

The transition from NOAA performance to contractor performance of hydrographic surveying, shoreline mapping, airport obstruction surveys, geodesy, aerial photography, LIDAR and other geospatial services is not something that has been initiated by NOAA. It is because of the leadership of Congress, and this Subcommittee in particular, that NOAA has begun to transform itself from being a source of competition for the private geospatial community to a source of business.

Failure by NOAA to fully embrace effective and efficient strategies has stood in the way of more expeditious completion of the survey backlog. While there is a strong, emerging public-private partnership between NOAA and the private sector, we believe the pace of change and reform at NOAA is much too slow.

There are still a number of qualified private firms, including those experienced in performing hydrographic services, that have not been selected for contracts by NOAA. There is an enormous capacity and capability in the private sector that NOAA fails to utilize. While much progress has been made, NOAA still duplicates, competes with, and under-utilizes the private sector in hydrographic surveying, charting, aerial photography, photogrammetry, and other geospatial disciplines.

Rather than fully funding contracts to utilize the capacity of the private sector, NOAA has been expending millions of dollars on equipment to compete with the private sector. In particular, we saw tens of millions of dollars of the American Recovery and Reinvestment Act of 2009 (ARRA) (PL 111–5), commonly referred to as the “Stimulus” or the Recovery Act, and other appropriated funds, used by NOAA to purchase equipment from Scandinavia. Those expenditures may have stimulated the economy of Norway, but it did little to put Americans back to work.

(SEE:

<http://www.km.kongsberg.com/ks/web/nokbg0238.nsf/AllWeb/A4976AE3F5E85109C12576260035A262?OpenDocument>)

NOAA can stretch its dollars in the production of nautical charts to support commerce and ensure safe navigation by more aggressively transforming itself into an organization that performs only those services that are inherently governmental in nature. It should not be expending funds for in-house performance of commercially available mapping activities.

We believe NOAA should focus its in-house activities on the establishment of professional and technical standards, certification of data, research and development, funding and administration of grants, and perform those services that are inherently governmental in nature and which are not competitive with the private sector. NOAA should be a leader in putting hydrographic data and other geospatial data in the hands of users who need such data for a variety of applications. NOAA should maintain an “intellectual” core capability in hydrography and other surveying and mapping, versus a large dollar of capital capability. Congressional appropriations and authorizations should be directed toward commercial contracting for data collection requirements, rather than capital equipment.

Mr. Chairman, there is a model for the roles and responsibilities we are recommending. And that model resides in NOAA.

MAPPS strongly supports, and enthusiastically recommends the coastal geospatial services contract program carried out by NOAA’s Coastal Services Center in Charleston, SC. In this program, roles and responsibilities are clearly defined. NOAA, as a data partner for Federal, State and local government, created the demand for geospatial data. The private sector provides the supply of geospatial data.

This is a model that should be emulated at NOAA headquarters, and frankly, by other Federal agencies as well. Therefore, we enthusiastically support H.R. 1382, the “Digital Coast Act of 2013”, introduced by Representative Ruppertsberger of Maryland and Representative Young of Alaska. We urge the Subcommittee to add H.R. 1382 as an amendment to H.R. 1399.

For too long, NOAA and other Federal agencies have unwisely spent taxpayers’ dollars by attempting to perform commercially available hydrographic and other geospatial activities. We urge the subcommittee to use the Hydrographic Services Improvement Act to change this paradigm. This is not a recommendation that comes solely from MAPPS, but it is one that has been advocated by virtually every study conducted on NOAA’s programs. Numerous studies, including those in which NOAA has participated or which NOAA funded, have recommended

that NOAA end its performance of commercially available surveying, charting, photogrammetric mapping, aerial photography and geodetic activities and focus on inherently governmental functions. Despite these findings, NOAA continues to operate their activities in-house, costing the taxpayers millions of dollars a year.

Vice President Gore's "Reinventing Government" study, 1993, said, "The National Oceanic and Atmospheric Administration (NOAA) will experiment with a program of public-private competition to help fulfill its mission. NOAA, a part of the Commerce Department, maintains a fleet of ships to support its research on oceans and marine life and its nautical charting. But its fleet is reaching the end of its projected life expectancy. And even with the fleet, NOAA has consistently fallen far short of the 5,000 days at sea that it claims to need each year to fulfill its mission. NOAA faces a basic question--whether to undertake a total fleet replacement and modernization plan, estimated to cost more than \$1.6 billion in the next 15 years, or charter some privately owned ships. The experience of the U.S. Army Corps of Engineers, which contracts out 30 to 40 percent of its ocean floor charting to private firms, shows that the private sector can and will do this kind of work. Competition among private companies for these services also might reduce costs."

In the U.S. Department of Commerce, Office of Inspector General, Semiannual Report to Congress, March 1996, it said, "In 1992, NOAA began a \$1.9 billion, 15-year plan to modernize its in-house fleet of research vessels." Since then, the Commerce Department's IG repeatedly has urged NOAA to explore more cost-effective options such as privatization. NOAA has ignored these suggestions even though the IG found that "(1) NOAA's fleet is clearly more expensive than available alternatives, (2) its decisions regarding the fleet have been based on faulty assumptions and inaccurate cost data, and (3) its actions have impeded attempts to form external partnerships with public and private sector organizations."

The Commerce Department Inspector General reported that NOAA's costs for performing hydrographic surveys are significantly higher than the private sector, at a rate of \$21,000 per ship per day or \$15 million per year. (NOAA Should Decommission its Ships and Terminate the Recent Billion-Dollar Fleet Modernization Plan, Inspector Report IPE-7794, March 1996).

In response to the Commerce IG report, NOAA contracted with Mitretek Systems to review the IG recommendations and the push toward fleet privatization. The review confirmed what everyone outside of NOAA has been saying. It concluded "maintenance of the needed core capability does not require government ownership of ships supporting NOS hydrographic surveys" (emphasis added). (Hydrographic Survey Data Collection: Analysis, Conclusions, and Recommendations, Mitretek Systems, report to NOAA pursuant to task order 56-SPNA-8-23032 of contract 50-SPNA-4-00023, October, 1998).

As a result, NOAA was designated as a "high risk" agency by the Government Accountability Office (GAO). Its hydrographic surveying fleet of ships has been so designated because its operation is so much more expensive than the private sector. It was on the GAO list of "major performance and management challenges" at the Department of Commerce (GAO/OCG-99-3). The GAO said, "Although NOAA has increased its outsourcing with the private sector, universities and other public entities for these services, it continues to rely on its old, inefficient

fleet, which lacks the latest available technology ...the Commerce IG recommended that NOAA terminate its fleet modernization efforts; cease investing in its ships; immediately begin to decommission, sell or transfer them; and contract for the required ship services. According to the Commerce IG, NOAA's failure to adopt a sound business approach to obtaining the best fleet services for its programs will continue to expose its programs to unnecessary costs and risks...Although NOAA has made some progress, more needs to be done. When NOAA first identified this issue as a material weakness in 1990, it estimated that the issue would be resolved by 1993. Today, NOAA has not committed to a specific completion date ... In the meantime, NOAA continues to rely on its old, inefficient in-house fleet, which does not have the latest state-of-the-art technology.”

As early as 1973 an OMB study found that mapping is a commercial activity and recommended that more of it be contracted. NOAA participated in that study. (Report of the Federal Mapping Task Force on Mapping, Charting, Geodesy and Surveying, OMB, July 1973) “Private cartographic contract capability is not being used sufficiently. We found this capacity to be broad and varied and capable of rendering skilled support to federal MC&G (mapping, charting and geodesy) programs. Contract capability is a viable management alternative, and using it would be consistent with the President's desire to limit the size of the Federal payroll. Its use should be encouraged in lieu of continued in-house build-up.” The President referred to was Nixon and the build-up that it warned against has indeed occurred.

In 1985, NOAA asked the National Academy of Sciences to study the Office of Charting and Geodetic Services. It found, “commercial resources offer time-proven expertise and professionalism in a wide range of cartographic activities.”

President Reagan's last budget submission to Congress in January, 1989, recommended increased use of private mapping firms by all Federal agencies, including NOAA, when it reported use of the private sector “is an important management tool to raise productivity, cut costs and improve the quality of Government services (the advantage of which is) efficiency, quality and innovation in the delivery of goods and services ... specific areas where the Government could place greater reliance on private sector providers include ... map-making activities”.

In 1994, the GAO investigated NOAA's fleet and recommended contracting of mapping activities. Even then, GAO found NOAA moving slowly. It said, “NOAA is beginning to take some additional actions to experiment with chartering activities, in particular for hydrographic charting and mapping services – one NOAA program mission for which chartering shows promise as an alternative to purchasing or leasing new vessels.” (Research Fleet Modernization: NOAA Needs to Consider Alternatives to the Acquisition of New Vessels, GAO/RCED-94-170, August, 1994.)

NOAA asked the Marine Sciences Committee of the National Research Council, National Academy of Sciences, to look at its nautical charting program. The report recommended “NOAA should facilitate private contractor participation in performing the required surveying by providing opportunities for private companies to compete for contracts to survey.” (Charting a

Course into the Digital Era: Guidance for NOAA's Nautical Charting Mission", National Academy Press, 1994.)

The National Academy of Public Administration found, "NOS will likely be contracting for an increasing portion of its activities – which the panel thinks is desirable." It said, "there also appears to be potential for increased contracting in the geodetic and photogrammetry sector ...". While NAPA said it opposed outright privatization, citing a Federal management responsibility, it found "participation by the private sector might be substantially increased through contracts." (A Performance Based Organization for Nautical Charting and Geodesy, National Academy of Public Administration, June, 1996)

Congressional Directives

For nearly 20 years, Congress has mandated or encouraged more contracting of mapping services by NOAA. The House-approved the fiscal year 1996 appropriations bill (H.R. 2076) for the Department of Commerce, including the mapping, charting and geodesy functions of the NOAA, included language in the Appropriations Committee Report seeking more contracting out of mapping activities. It read as follows:

Mapping and Charting.--The Committee has included \$37,500,000 for the NOAA mapping and charting program. This increase above the request is intended to increase the percentage of critical areas that could be surveyed in fiscal year 1996 and hasten the implementation of NOAA's new digital charting system. The Committee intends that NOAA increase its reliance on contracting with the private sector to conduct mapping and charting activities. An increased reliance on the private sector will enable NOAA to decrease its FTE requirements and the need for additional vessels in its own fleet for these purposes. The Committee intends that the entire increase provided will be used to contract with the private sector and does not approve additional FTE for this activity.

The Senate joined with the House in its admonishment to NOAA with language in its Commerce Appropriations Committee Report saying:

For mapping and charting, the Committee recommendation includes the requested amount of \$33,586,000, instead of an increase as provided in the House-passed bill. The Committee supports efforts to privatize the charting and mapping functions and expects NOAA to rely more on use of contract vessels for these purposes instead of on its own fleet.

The House-Senate Conference on H.R. 2076 (Commerce Appropriations) adopted the following conference report language:

The conferees expect funds made available under this account and the NOAA Fleet Modernization account, including prior year carryover funds, for mapping, charting, and geodesy services to be used to acquire such services through contracts entered into with qualified private sector contractors. The conferees expect that contracts for hydrographic, geodetic, and photogrammetric surveying and mapping services shall be awarded in accordance with title IX of the Federal Property and Administrative Services Act of 1949 (40 U.S.C 541 et. seq.), as

proposed in the House report. Further, the conferees intend that no funds provided under this account, in this Act or in any prior year appropriation, be used to procure equipment that replaces or modernizes NOAA's in-house measurement capabilities when similar services may be obtained by contract through the private sector. The conferees believe that it is inappropriate for NOAA to use its limited resources to acquire specialized equipment for the NOAA fleet, considering the uncertainty of the future of the fleet as well as the availability of such equipment among potential private sector contractors for mapping and charting activities.

Congress again addressed the issue in the FY1999 Commerce Appropriations bill, noting NOAA's failure to comply with previous Congressional directives.

The recommendation includes \$16,000,000 under the line item Address Survey Backlog/Contracts exclusively for contracting out with the private sector for data acquisition needs, an increase of \$2,500,000 above the current level and \$7,500,000 above the request. The Committee remains concerned that the NOS and NOAA have not taken sufficient steps to develop a viable short-term and long-term plan for hydrographic services. Given the age of NOAA's current hydrographic ships, and the fact that fiscal constraints will preclude additional government-owned replacement vessels, such failure jeopardizes NOAA's ability to meet this critical mission requirement. While the Committee appreciates the efforts of NOS to work with the Committee and all interested parties to address this matter, the Committee was disappointed that the report lacked specific plans to comply with some of the direction provided in the fiscal year 1998 report, including a plan for 50% outsourcing, as well as the development of innovative mechanisms and alternatives to maintain core capabilities for appropriate oversight to ensure data quality. The Committee is aware that an independent study is currently being conducted to address these issues. Therefore, the Committee directs NOAA to provide a report to the Committee no later than February 1, 1999, which address these issues and includes a plan for outsourcing not less than 50% of hydrographic survey work by fiscal year 2000. (House Report 105-636, to accompany H.R. 4276, July 20, 1998).

In 2004, the House Appropriations Committee instructed NOAA again.

The Committee expects NOAA to work with the private mapping community to develop a strategy for expanding contracting with private entities to minimize duplication and take maximum advantage of private sector capabilities in fulfillment of NOAA's mapping and charting responsibilities. NOAA shall submit a report on such a strategy to the Committee no later than November 1, 2004. This report shall include a description of activities currently performed by NOAA, and activities performed by contractors, accompanied by cost and percentage information for each.

(House Report 108-576, to accompany H.R. 4754, July 1, 2004)

Hydrographic Surveying

Congress has been involved in reforming NOAA's hydrographic program for several years. Since 1995, Congress has included language in the Commerce appropriations bill to require increased contracting out, and in fact has increased NOAA's hydrographic budget, but earmarked those funds for contracting. Despite objections from the Commerce IG and the private

sector, Congress compromised in its FY98 appropriation and provided funds for NOAA to upgrade one of its ships, in order to increase its ability to chart the waters off Alaska. Finally, Congress enacted the Hydrographic Services Improvement Act (Title III of Public Law 105-384), which capped NOAA's in-house hydrographic surveying at \$16 million per year and required (sec. 305(b)) a report to Congress on a plan "to ensure that Federal competence and expertise in hydrographic surveying will be maintained after the decommissioning of the 3 existing Administration hydrographic survey vessels ... (and) an estimated schedule for decommissioning the 3 existing survey vessels."

For those hydrographic surveys that NOAA does contract out, the agency is highly satisfied. Private firms have injected new technology into the hydrographic surveying process – technology that brings greater accuracy, enhanced productivity and lower costs which NOAA had not employed in its in-house operation.

A legislative mandate is needed to force NOAA to save taxpayers money by decommissioning its ships and contracting out its remaining hydrographic requirements.

Aerial Photography

The Commerce IG has also recommended shutting down NOAA's fleet of aircraft, including its aerial photography program, citing NOAA's costs at 42% higher than the private sector. (NOAA's Light Aircraft Fleet Should Be Privatized, STD-9952-8-001, August, 1998).

Rather than accept and implement the audit report, NOAA has again hired Mitretek, to study its aircraft operations. The Mitretek report found that NOAA historically has used more crew members for its flight operations than the private sector. Mitretek also found that some NOAA aircraft, including those used for aerial imaging, are **twice** as expensive to operate as the equipment used by the private sector. (*NOAA Light Aircraft Operations: An Independent Internal Assessment*, prepared by Mitretek Systems, contract 50-SPNA-9-00009 for NOAA, Office of Marine and Aviation Operations, U.S. Department of Commerce, February 2000).

The aforementioned Mitretek report made the case in unequivocal terms. It stated, "NOAA light aircraft services are not inherently governmental in nature". It went on to say, "Missions requiring the collection of data only with no government personnel on board (e.g. aerial photography) represent the easiest missions to transfer to the private sector."

Other agencies with aerial photography and LIDAR requirements have concluded that private sector performance is more cost effective. The U.S. Geological Survey, for example, has pooled funds from several Federal agencies, as well as State government, to obtain high resolution, highly accurate aerial imagery. USGS is launching a 3-Dimensional Elevation Program (3DEP), to acquire LIDAR and other elevation data for the Nation, including Alaska. The Department of Agriculture has managed the National Agriculture Imagery Program (NAIP), to monitor crop production. These programs are 100% contractor-performed. The Tennessee Valley Authority and the Texas Department of Transportation sold their aircraft and made the transition to complete contractor performance of their aerial photography needs. TVA and TxDOT determined that the cost to maintain its equipment, re-invest to keep current with state-of-the-art technology,

and recruit and retain scarce aerial photography personnel made in-house performance far more costly than contract performance – the same conclusion the Commerce IG came to with regard to NOAA.

It is unfortunate that NOAA is wasting tax dollars, such as when it ferried an airplane from Tampa, FL to Joplin, MO after the tornado ... days AFTER the private sector had already acquired the necessary aerial imagery.

Photogrammetry

Photogrammetry, the engineering process of using measurements on precise aerial photographs to produce topographic, planimetric and other forms of maps, is a commercial activity provided by some 250 firms in the United States. NOAA has increased its contracting for this service in recent years, but has not aggressively begun its transition to contractor performance of photogrammetry. NOAA is using out-dated techniques, old equipment, and productivity that are far behind the private sector. NOAA has not complied with OMB Circular A-76 with regard to its photogrammetry activity. Other agencies, such as the Corps of Engineers, Fish and Wildlife Service, USGS, and the National Geospatial-Intelligence Agency (NGA) have moved to contractor performance of photogrammetric services that are as difficult, and in some cases more challenging, than NOAA's requirements. NOAA should be required to use this cost effective strategy as well.

Conclusion

NOAA should not be expending funds for in-house performance of commercially available mapping activities, unless that in-house performance is more cost effective than the private sector.

Beginning in 1955, it had been longstanding the policy of the Government of the United States to rely on the private sector for commercially available goods and services. The policy stated “the Federal Government will not start or carry on any commercial activity to provide a service or product for its own use if such product or service can be procured from private enterprise through ordinary business channels.” (SEE Bureau of the Budget Bulletin 55-4 and Office of Management and Budget Circular A-76, August 4, 1983). NOAA has not complied with this policy. It is particularly troublesome that an agency of the Department of Commerce engages in competition with private enterprise, and too frequently utilizes universities, rather than companies in the commerce sector of our economy, particularly small business, to carry out commercial activities, such as surveying and mapping. As a Commerce Department agency, NOAA should be a leader in promoting private enterprise, not be a leader in supporting big government OVER private enterprise.

NOAA has accomplished some valuable work in the establishment of professional and technical standards, research and development, and the funding and administration of grants. Moreover, NOAA has responsibility for a national charting program and an obligation to perform services that are inherently governmental in nature, which are not competitive with the private sector, and which will not interfere with their Federal responsibilities. It is not, however, a proper role of

government to perform activities that are commercially available. This is a responsibility of the private sector.

There is a capable and qualified private sector in mapping that can and should be used to a greater extent by NOAA. There is no justification, from a policy or fiscal point of view, for NOAA to maintain government activities that duplicate or compete with the private sector. Activities that are commercial in nature, such as geodetic surveying, aerial photography, remote sensing, and photogrammetric mapping should be performed by the private sector.

By requiring NOAA to use the private sector for commercial mapping services unless it is more cost effective to do the work in-house, NOAA would be able to focus on in-house activities on the establishment of professional and technical standards, research and development, funding and administration of grants, and to perform those services that are inherently governmental in nature and which are not competitive with the private sector.

It is important to note that the Hydrographic Services Review Panel has recommended that NOAA conduct a thorough cost-comparison of its hydrographic surveys. NOAA has failed to do so. The lack of such an accounting has also been cited by GAO. Nevertheless, without any justification for continuing its in-house operation, NOAA does just that.

Again, we commend this Subcommittee for its leadership on NOAA's hydrographic services program. Important steps have been taken, and progress has been made, but we must continue to strive to bring the full expertise, innovation and efficiency of the private sector to all of NOAA's mapping and charting activities.

Mr. Chairman, I thank you and your subcommittee for the opportunity to appear before you today.

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Mr. McDonald is the Director of Federal Services at T3 Global Strategies, Inc. (T3GS), a small business located in Bridgeville PA offering a full line of surveying and photogrammetric mapping services. T3GS provides services to commercial clients, local government and state and federal agencies.

Mr. McDonald has over 40 years experience in the photogrammetric mapping, surveying and GIS professions. He received his education in photogrammetry at the U.S. Army Engineering School in Fort Belvoir, VA. Upon graduation he spent over two years in Tokyo with U.S. Army Map Service, Far East.

After a brief period with a mapping firm in Pittsburgh PA Mr. McDonald began a career with Michael Baker Jr., Inc., a large consulting engineering firm. He began as a stereo map compiler and advanced to Assistant Vice President of Geospatial Information Technologies. In this position Mr. McDonald was responsible for managing the Surveying, Photogrammetric Mapping, GIS, Application Development and 3D Visualization groups in Baker's Beaver and Moon Township, PA Offices. During his career at Baker, he managed many large contracts with state DOTs throughout the nation, many federal agencies and several international projects.

Prior to joining T3 Global Strategies Mr. McDonald spent two years as Executive Vice President of GIS Operations at Geospatial Corporation, a small business located in Sarver, Pa that specialized in mapping underground infrastructure using proprietary technology.

Mr. McDonald is a licensed Professional Land Surveyor in the state of Pennsylvania and an ASPRS Certified Photogrammetrist. He has been a member of the board of directors of the Management Association of Private Photogrammetric Surveyors (MAPPS) for the past eight years and currently serves as President of the organization.