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Izotropic Files Pre-Submission with U.S. FDA for Breast Cancer Screening

-A screening indication for women with dense breast tissue adjunctive to 3D mammography increases the market size for annual IzoView scans by over 800%[1] for initial approval and product launch-

-Regulatory strategy responds to the "urgent call[2]" from the U.S. Preventative Services Task Force for solutions to finding breast cancers earlier in women with dense breast tissue-

-Comprehensive filing includes patient acquisition and clinical study plans that validate a projected clinical study timeline of 2.5 years with an approximate cost of USD 3.5 million-

VANCOUVER and SACRAMENTO, January 9, 2025, Izotropic Corporation (CSE: **IZO**) (OTCQB: **IZOZF**) (FSE: **1R3**) ("**Izotropic**" or the "**Company**"), a medical device company commercializing imaging-based products utilizing innovative and emerging technologies for the more accurate screening, diagnoses, and treatment of breast cancers, announces that it has filed a pre-submission with the U.S. FDA to obtain actionable feedback on a clinical study design for the approval of its first medical imaging device, the IzoView Breast CT Imaging System ("**IzoView**"), with contrast-enhancement for breast cancer screening adjunctive to digital breast tomosynthesis ("**DBT**") commonly referred to as 3D mammography.

Breast cancer remains an unfortunately common disease accounting for 30% of cancers diagnosed in the U.S. each year. Approximately 300,000 women have been diagnosed with breast cancer in 2024, adding to the over 4 million women living with a history of breast cancer in the U.S.[3] In 2022, 2.3 million women were diagnosed with breast cancer and the disease claimed 670,000 lives globally[4].

There is a clear unmet need for high-resolution, true 3D imaging modalities, especially for women with dense breast tissue which is both a risk factor for developing breast cancer and a patient characteristic that makes current standard-of-care breast cancer screening modalities less effective at detecting cancers. Approximately 20% of breast cancers present at the time of screening are missed, denying too many women their right to early cancer detection when less aggressive therapies can be used and when treatments are more likely to succeed. Conversely, current breast imaging modalities return false negative results on 10-12% of breast cancer screenings, and 50-60% of women can expect at least one false positive result after 10 years of annual screening[5]. Not only do false positive results cause unnecessary fear and anxiety for women and their families, but they also lead to unnecessary follow-up imaging and diagnostic procedures that in the U.S. alone have an estimated cost of 8 billion USD annually[6].

Izotropic intends to launch its first medical imaging device, IzoView, a dedicated Breast CT imaging system, as an adjunct to DBT. DBT, like traditional mammography, is a breast compression-based imaging device that uses software and 15-50 degree image acquisition to generate slightly 3D images from a series of x-ray images acquired in 2D. Compression-based breast imaging devices are less effective in patients with dense breast tissue, as both dense breast tissue and suspicious lesions and tumors appear white on compression-based breast images, and the density of the tissue itself can overlap under compression creating imaging artifacts that can mimic the appearance of cancer and mask cancers within the dense tissue itself. While studies have confirmed that DBT has been shown to have "higher sensitivity than digital mammography and at least as high specificity[7]" and it has been argued that clinics with DBT are "ethically required to use DBT in screening when practically possible[8]", studies have also shown that DBT still produces false negative results and that women with extremely dense breast tissue are predisposed to missed cancers on DBT screening[9]. In March of 2023, the FDA updated its mammography regulations under the Mammography Quality Standards Act ("**MQSA**") to require reporting of breast density information to patients, giving them access to this information and helping them to understand how this might influence the accuracy of their mammography examinations[10]. In September of 2024, the regulation was enforced across all 8,931 MQSA-certified facilities in the U.S.[11] The obstacles with screening for breast cancers in patients with dense breasts using the current standard-of-care modalities are so prevalent that even the U.S. Preventative Services Task Force is "urgently calling for more research on whether and how additional screening might help women with dense breasts find cancers earlier[12]."

Contrast-enhanced breast CT has proven more than promising in research studies at UC Davis Medical Center where the technology was founded and from which Izotropic has the exclusive global licensing rights. Four successive breast CT systems have been built and tested in clinical trials for research purposes at UC Davis, funded primarily by U.S government grants, resulting in a fully de-risked technology with a large volume of published, peer-reviewed scientific research supporting its capabilities and potential. The research trials have shown that "malignant masses are more conspicuous on dedicated contrast-enhanced breast CT than both mammography and tomosynthesis [DBT][13]". Breast CT's impressive capabilities are a result of its extremely high spatial resolution that is 100 times greater than MRI[14]- the current highest standard in 3D breast imaging. Studies have shown that compared to MRI, breast CT "should allow [for] more accurate margin analysis, lesion characterization, and microcalcification visualization[15]", while being less expensive with a faster imaging exam time.

IzoView will be a whole new experience for patients, radiologists, and providers: to complete the exam, the patient receives a standard pre-approved contrast injection, positions themselves face down on the tabletop and places their own breast in the IzoView imaging cup. The patient tabletop can accommodate patients up to 440 lbs and is the approximate height of a standard bed allowing for ease of access for patients of most sizes. Optical cameras below the tabletop allow the imaging operator to verbally guide the patient's positioning if required, avoiding direct physical contact with the patient's breast, promoting a more considerate and patient-focused experience. Patient dignity is further preserved as no painful breast compression is required owing to the comfortable face-down view in which natural breast orientation is maintained, producing more suitable image outputs. The imaging hardware beneath the table then circles around the patient's breast, producing approximately 500 high-resolution images (depending on breast length) in approximately 10 seconds with a radiation dose that is comparable to 2-view mammography[16]. A true 3D reconstructed image is produced within 30 seconds, which a radiologist can then view

from any angle like a 3D model or slide through the 500 cross-sectional images individually to determine any abnormalities in size, shape, location, and relation to other internal breast structures.

When used with contrast enhancement in research trials, breast CT may find lesions and tumors in the 2mm size range[17]. Compared to the average-sized 11mm tumor found on screening mammography[18] and considering that the average growth rate of breast cancers results in their doubling in size every 6 months[19], breast CT may offer approximately 1 ¼ (one and one quarter) years earlier detection of breast cancers. With the risk of death increasing by an average of 10% for every month that cancer treatment is delayed[20], the Company feels IzoView is a clear solution for the challenges of breast cancer screening in patients with dense breast tissue.

Izotropic, with the support of recognized industry experts, has thoroughly investigated the challenges and opportunities associated with launching IzoView as a screening or diagnostic imaging device either stand-alone or adjunctive to another imaging modality. To enable the Company to be revenue generating as soon as possible to fund clinical trials to approve IzoView with more indications for use (e.g. diagnostic, robotic-guided biopsy, and more), the expansion and creation of additional divisions, and the development of different imaging-based devices, the most efficient track to achieving regulatory approval that leads to a larger number of eligible end users while minimizing risk has been identified and is being pursued. By indicating IzoView for use adjunctive to DBT for breast cancer screening in asymptomatic women with dense breast tissue versus a straight diagnostic focus where breast CT enters a patients workup journey after breast cancer screening has taken place, the market size of patients that are eligible to have an annual IzoView exam increases favorably by over 800%.

The extensive 60-page pre-submission filing describes a full technical indication for use, and identifies intended patient populations and intended users; a thorough device description with system and sub-system schematics and component descriptions covering the imaging, mechanical, electrical, power, communications and controls, safety, software and accessories; system operation, patient positioning and breast radiation dosimetry details; a comprehensive synopsis of prospective case collection for the clinical study; a comprehensive synopsis of the proposed clinical study protocol complete with statistical considerations; and specific confirmatory questions for the FDA to ensure the Company's outcome of the forthcoming pre-submission meeting will enable actionable steps on the path to regulatory approval and commercialization of IzoView.

The filing identifies a requirement for 3 clinical study sites, identifies the number of patients and exams required to provide the required volume of data for demonstrating safety and effectiveness of IzoView, identifies the number of radiologists required to read and score imaging scans, and confirms the clinical data collection phase of the clinical study will take 2.5 years (including a 1-year negative cancer case validation period to confirm that the patients diagnosed cancer-free during the clinical study remain cancer free) followed by the final submission to the FDA for device approval, and confirms previously disclosed estimates of an overall cost of USD 3.5 million for the clinical study.

The Company has provided the FDA with options for meeting dates congruent with the FDA's processing time of 75 days for pre-submissions. The pre-submission meeting date will be announced when confirmed by the FDA.

Sources:

[1] ~42 million compression-based breast cancer screening images are taken annually, with 92% of certified facilities having DBT units. Assuming all facilities with DBT use it for screening, ~38,640,000 DBT exams are performed with 10% callback rates resulting in 3,864,000 patients eligible for diagnostic IzoView Breast CT. There are ~70.9 million women of screening age (40-74) in the USA with 50% having dense breast tissue (C or D) making 35.45 million women eligible for breast cancer screening with IzoView Breast CT. The percentage increase from 3,864,000 to 35.45 million is ~817%. No concrete data is available for annual breast cancer screening rates for women aged 30-39, who are eligible for annual breast cancer screening if they have additional risk factors. These women would also be candidates for adjunctive screening with IzoView Breast CT.

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About Izotropic:

More information about Izotropic Corporation can be found on its website at izocorp.com and by reviewing its profile on SEDAR at sedar.com.

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Contacts:

Robert Thast
Chief Executive Officer
Telephone: 1-604-220-5031 or 1-833-IZOCORP ext. 1
Email: bthast@izocorp.com

General Inquiries
Telephone: 1-604-825-4778 or 1-833-IZOCORP ext. 3
Email: info@izocorp.com