

P3333.2.5.2

Submitter Email: ylm2103@gmail.com

Type of Project: New IEEE Standard

PAR Request Date: 26-Jul-2018

PAR Approval Date: 27-Sep-2018

PAR Expiration Date: 31-Dec-2022

Status: PAR for a New IEEE Standard

Project Record: P3333.2.5.2

1.1 Project Number: P3333.2.5.2

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Hard Tissue Modeling for 3D Printing

3.1 Working Group: 3D Based Medical Application Working group (EMB/Std Com/3333.2)

Contact Information for Working Group Chair

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3.2 Sponsoring Society and Committee: IEEE Engineering in Medicine and Biology Society/Standards Committee (EMB/Std Com)

Contact Information for Sponsor Chair

Name: Carole Carey

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Contact Information for Standards Representative

None

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 03/2021

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 10/2021

5.1 Approximate number of people expected to be actively involved in the development of this project: 40

5.2 Scope: This standard defines a data file format standard that increases the precision of 3D printing model output of hard tissues in medical images. Standardization involves the use of medical scanning devices to acquire physical data models with density and size characteristics and to develop comparative analysis data.

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: To establish the standardization of medical imaging and modeling procedures for hard tissue 3D printing in medical environment. Moreover, in order to produce an accurate segmentation, it is necessary to apply some segmentation algorithms, with the pre-processing step, such as extracting bone features with image enhancement and density selection.

5.5 Need for the Project: Medical 3D Printing has high technological barriers, which do not necessarily exist in other industries. Medical 3D Printer requires high reliability in producing useful and cost-effective products leading to the market and process standardization of 3D solutions to various requirements.

5.6 Stakeholders for the Standard: 3D Printer Manufacturers

3D Printing filament (material) manufacturers

Medical Imaging Equipment Manufacturers

Medical 3D signal processing engine developers

S/W programmers for 3D volume imaging Medical practitioner

Health care manager Medical researcher
Medical device developer
3D product manufacturer

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

7.1 Are there other standards or projects with a similar scope?: No

7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: Yes

Organization: ISO

Technical Committee Name: Additive manufacturing

Technical Committee Number: TC 261

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8.1 Additional Explanatory Notes: WG is in the process of establishing liaison with DICOM to maintain open communication and collaboration.

the DICOM Standard (NEMA PS3 / ISO 12052) defines digital file formats for all medical imaging modalities, image segmentation, and parametric maps.