

P3333.2.5.3

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: P3333.2.5.3

1.1 Project Number: P3333.2.5.3
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Standard for Surgical Guide Design Modeling for Medical 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 patient-specific guide block design and 3D modeling technology standards for high-precision 3D printing to increase patient satisfaction with orthopedic implant surgeons.

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

5.4 Purpose: To establish the standardization of surgical guide design and 3D modeling procedure for medical 3D printing in personalized surgery field.

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: Surgical guide Manufacturers

Medical implant Manufacturers
3D Printing filament (material) manufacturers
Medical Imaging Equipment Manufacturers
Manufacturer of 3D devices including 3D monitor and 3D display panel
Medical 3D signal processing engine developers
S/W programmers for 3D volume imaging

Medical practitioner
Health care manager
Medical researcher
Medical device developer
Technical expert
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: Patients who have undergone artificial joint surgery are dissatisfied with postmortem motility due to incorrect implantation. Patient - specific surgical guides using medical image data of patients are being utilized to improve these conditions. The CT, MRI, XRAY is used to determine the cutting position, determine the position and size of the implant, and make a cutting guide. Medical 3D printing is used to reduce the patient's operation time by eliminating the existing intramedullary instrument insertion or computer registration during surgery, increasing the satisfaction of mobility after recovery by correct operation, and reducing the burden of patient's medical expenses.