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MCDONALD, C, RANNOW, RK, PAI, D, BULLAS, Alice and BALLESTER, A

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# Standards Corner

# IEEE SA Industry Connections 3D Body Processing Working Group and IEEE P3141 Standard for 3D Body Processing - Part 2

**Carol McDonald**
Gneiss Concept

**Randy K Rannow**
Silverdraft Supercomputing

**Dinesh Pai**
Vital Mechanics

**Alice Bullas**
Sheffield Hallam University

**Alfredo Ballester**
Universistat Politècnica de València

**The IEEE 3D Body Processing Industry Connections Working Group** (3DBP IC) brings together a diverse group of stakeholders including computer scientists, research and development personnel, three-dimensional (3D) body scanner vendors, retailers and thought leaders around 3D body processing technologies (3D capture, processing, storage, sharing, and virtualization) [1].

The group is focused on identifying the gaps in existing standards and recommended practices, identifying new potentially useful standards, identifying potential best practices for 3D body processing and adjacent related technologies, guides and recommendations for using body measurements, and identifying benefits/ limitations for this data. The 3DBP IC has six subgroups to address these key challenges: File Formats and Metadata; Quality; Communication, Security and Privacy (CSP); Footwear; Mega Technology Trends; and Fit.

The File Formats and Metadata subgroup develops recommendations of existing file formats that support the linkage and management of 3D data and related metadata. The subgroup is exploring processes and procedures to define mandatory and optional metadata derived from 3D processing.

The Quality subgroup has developed preliminary methods, tools, benchmarks, resources, and testing procedures to define and quantify the quality of 3D models, and the quality of the critical metadata for use cases such as body landmarks and measurements. The subgroup has conducted global studies with different 3D technologies. During the latest, entitled *"Past, Present and Future of 3D Body Scanning"*, a team made up of 30 people from 14 different companies collected 1,152

data points from 72 subjects during four days using eight measuring stations; namely, two booth scanners, four smartphone apps and two experts using traditional anthropometric methods.

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The CSP subgroup investigates the secure transmission and storage, usage and protection/privacy of records that contain personal information as it pertains to 3D body processing. The intent is to develop minimum CSP practices to improve individual privacy and security, irrespective of the communication protocol used in information, record exchange and storage.

The Footwear subgroup addresses how different industry interests can impact 3D scanning data requirements, e.g., with respect to footwear dimensions, develops a consensus on what constitutes critical measurements for fit, and investigates how foot mobility affects fit.

The Mega Technology subgroup explores how emerging technologies or new technologies (AI, cloud computing, IoT and big data, 5G, etc.) will influence industries, and how the adoption rate will impact the apparel value chain and retail environment.

Having identified apparel "fit" as a key opportunity, a Fit subgroup investigates what 3D-related systems or processes need standards or beyond the current industry practices for describing fit in 3D and relevant 2D apparel manufacturing practices. This subgroup will be considering communication barriers regarding language and terminology and define quantifiable attributes of fit. The group will then investigate how 3D scanning possibly may impact the methodology of 2D and 3D pattern making.

The 3DBP IC works in conjunction with the IEEE P3141 Standard for 3D Body Processing as part of the IEEE Consumer Electronics Society (CES). This standard addresses the fundamental attributes and metrics that contribute to quality 3D body processing experiences.

**REFERENCES**

[1] IEEE 3DBP IC Working Group, https://standards.ieee.org/industry-connections/3d/bodyprocessing.html, Last accessed on 03 May 2020.

**Carol McDonald** is co-owner of Gneiss Concept, consultancy in USA. Contact her at carol@gneissconcept.com

**Randy K Rannow** is Director of Engineering at Silverdraft Super Computing in USA. Contact him at randy@silverdraft.com

**Dinesh Pai** is Founder and CEO of Vital Mechanics and a Professor and Research Chair at University of British Columbia, Canada. Contact him at pai@vitalmechanics.com

**Alice Bullas** is a Research Follow with the Sports Engineering Research Centre, Sheffield Hallam University, UK. Contact her at a.bullas@shu.ac.uk

**Alfredo Ballester** is Product Manager & Researcher at Instituto de Biomecánica, Universistat Politècnica de València, Spain. Contact him at alfredo.ballester@ibv.org