

# Public SSB Fact Sheet: 3D Manufacturing Format (3MF)

Projects

Exported on 12/19/2023

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#### Additional Resources

<b>Short description/ Transmitted information</b>	<ul style="list-style-type: none"> <li>3MF is an XML-based data format designed by the 3MF Consortium for additive manufacturing. It is including model geometry, structure, material, color and property information.</li> </ul>
<b>Normative document</b>	<ul style="list-style-type: none"> <li>List of several normative documents available at <a href="#">Specification - 3MF Consortium</a><sup>1</sup></li> </ul>
<b>Version/ Release state</b>	<ul style="list-style-type: none"> <li>2.2.0</li> </ul>
<b>Release date</b>	<ul style="list-style-type: none"> <li>24 August 2021</li> </ul>
<b>Application scope</b>	<ul style="list-style-type: none"> <li>Data exchange</li> <li>Collaboration</li> </ul>
<b>Goals</b>	<ul style="list-style-type: none"> <li>Improve data exchange in AM processes by providing a standardized file format that can forward full digital part information.</li> </ul>
<b>Promoting bodies</b>	<ul style="list-style-type: none"> <li>3MF Consortium</li> </ul>
<b>Type</b>	<ul style="list-style-type: none"> <li>3MF Consortium Standard</li> </ul>
<b>IT Standard classification</b>	<ul style="list-style-type: none"> <li>Interoperability Standard</li> <li>Process Standard</li> </ul>
<b>Data format</b>	<ul style="list-style-type: none"> <li>Text Format (ASCII/XML)</li> <li>Geometry in tessellated representation</li> <li>Extensible with proprietary content</li> </ul>
<b>Additional available resources</b>	<ul style="list-style-type: none"> <li><a href="https://3mf.io/">https://3mf.io/</a></li> <li><a href="https://github.com/3mfconsortium">https://github.com/3mfconsortium</a></li> </ul>
<b>Relevant prostep ivip project groups</b>	<ul style="list-style-type: none"> <li><a href="#">Additive Manufacturing Interfaces AMI</a><sup>2</sup></li> <li><a href="#">3D Messdatenmanagement Implementor Forum (prostep.org)</a><sup>3</sup></li> </ul>

<sup>1</sup> <https://3mf.io/3mf-specification/>

<sup>2</sup> <https://www.prostep.org/projekte/additive-manufacturing-interfaces-ami/>

<sup>3</sup> <https://www.prostep.org/projekte/3d-messdatenmanagement-implementor-forum/>

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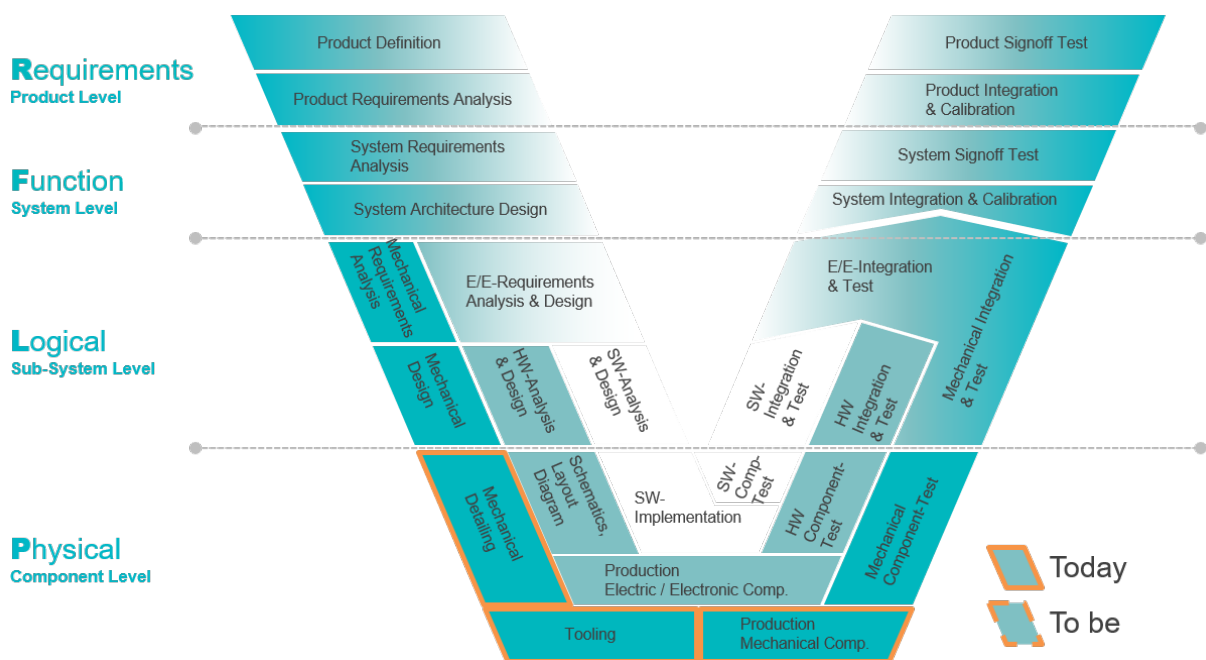
Additional Resources

- There are currently 16 Founding Members and 10 Associate Members within the 3MF Consortium.
- The 3MF File format is not intended to be standardized by a standardization body.

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Additional Resources

## Positioning of 3MF in V-Model



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Additional Resources

- quasi industry STD
- flexible format for all AM information

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Additional Resources

- Development efforts need to be split among several FMI versions, slowing down overall adoption rate of the standard
- Users keep using older versions of the standard; therefore tool vendors have no incentive to implement newer versions for export

- Releases of non-backward compatible versions cause transition overhead for users, slowing down the adoption of new releases
- A simulation model using multiple FMU’s from different IT tools may not leverage the full FMI capabilities if one (or more) IT tool(s) do not support all capabilities of the FMI specification. This can lead to unexpected simulation results.

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Datei	Geändert
<a href="#">Positioning of 3MF in V-Model.png</a> <sup>4</sup>	März 21, 2023 by <a href="#">Peter Tabbert</a> <sup>5</sup>
<a href="#">Fact Sheet_ 3D Manufacturing Format (3MF).pdf</a> <sup>6</sup>	März 21, 2023 by <a href="#">Peter Tabbert</a> <sup>7</sup>
<a href="#">3MF (legacy image).png</a> <sup>8</sup>	März 21, 2023 by <a href="#">Peter Tabbert</a> <sup>9</sup>

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4 <https://intranet.prostep.org/download/attachments/108855311/Positioning%20of%203MF%20in%20V-Model.png?api=v2>

5 <https://intranet.prostep.org/display/~petertabbert>

6 [https://intranet.prostep.org/download/attachments/108855311/Fact%20Sheet\\_%203D%20Manufacturing%20Format%20%283MF%29.pdf?api=v2](https://intranet.prostep.org/download/attachments/108855311/Fact%20Sheet_%203D%20Manufacturing%20Format%20%283MF%29.pdf?api=v2)

7 <https://intranet.prostep.org/display/~petertabbert>

8 <https://intranet.prostep.org/download/attachments/108855311/3MF%20%28legacy%20image%29.png?api=v2>

9 <https://intranet.prostep.org/display/~petertabbert>