



# Allotrope Foundation Quarterly Update 2022/03

Dear Allotrope Community,

We have continued our progress this quarter and improved or expanded the AFO, ADM, ASM, and ADF further in the following areas with updates to share. Please note that access to links may require access to GitLab or other Allotrope Community resources. More details for access [here](#).

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## *Allotrope Simplified Model (ASM):*

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### *The ASM Transformation Tool Completed*

The product team is excited to announce the completion of the governance tool development for transforming the ADM in its tabular type into an ASM. The product team, together with a professional software development team from OSTHUS was working diligently on the completion of this project. The ASM is a simple text representation of the Allotrope tabular models using JSON syntax. It is an extension to the existing ADM in its Tabular and Aggregation structure. Compatibility between the ASM data representation and the ADM data representation is achieved by transforming the syntactic representation of an ADM into an ASM simplified format, while maintaining data and semantic consistency.

The project included several milestones and deliverables, including:

- ASM JSON Schema definition
- ADM (SHACL) to ASM (JSON Schema) conversion tool
- ADM to ASM instance data conversion tool
- Round trip (ADM – ASM) testing methodology
- ASM Transformation Tool documentation in a Wiki

The ASM Transformation Tool Wiki provides advance topics such as the semantics and the technology for transforming an RDF/SHACL model to a JSON based model.

The ASM Transformation Tool project repository and Wiki requires the appropriate access credentials. Permission to access it can be requested from the Allotrope Product Team.

We would like to thank the dedicated and talented OSTHUS engineering team for this project: Thomas Weber, Gerhard Wickler, Harsh Thakker, and Jennifer Aschenbrenner.

### *The ASM Primer Wiki Released*

The ASM Primer Wiki provides the basic material to learn about the Allotrope Simple Models. It includes a Simple Guide to ASM.

The ASM Primer Wiki is open to the community. Please refer to:

- ASM Primer: <https://gitlab.com/allotrope/asm-primer/-/wikis/home>

(Please note that some pages in the primer contain links to advanced topics. These advance topics are in the ASM Transformation Tool project repository and Wiki, which requires the appropriate access credentials. Permission to access it can be requested from the Allotrope Product Team.)

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### *Working with the Allotrope Simple Model*

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The latest updated set of ASM models is available. New and updated models will be released in conjunction with the release of new tabular models. Adopters can generate example results of tabularized data based on the JSON ASM format.

In cases where there is no Tabular model for a chosen instrumentation type or technique, the product team is available to support the drafting of a new tabular model and the Modeling Working Group is ready to review and govern drafted models.

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### *Allotrope Foundation Ontology & Data Models (AFO/ADM/ASM)*

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Modeling teams have continued working to align on proposals to expand the domain coverage of the AFO, ADM and ASM. Easily access files located on Client Connect [here](#) and more granular technical details available on GitLab, <https://gitlab.com/allotrope/adm/-/tree/master/purl>.

See [www.allotrope.org/product-releases](http://www.allotrope.org/product-releases) for full list of available models updated on March 31, 2022.

#### *AFO Updates*

Following the updates that were issued to set of ADMs, a new AFO release is published this quarter

The Allotrope Merged Ontology Suite release is available on:

- BioPortal, the repository of biomedical ontologies: <https://bioportal.bioontology.org/ontologies/AFO>
- Client Connect: [here](#)
- Gitlab: <https://gitlab.com/allotrope/afo/-/tree/master/afo>
- Allotrope PURL sever: <http://purl.allotrope.org/> (listed under AFO>MERRGED)
- JFrog Artifactory: <https://allotrope.jfrog.io/ui/repos/tree/General/AFO-release-public>
- Allotrope website: <https://www.allotrope.org/ontologies>

#### *ADM/ASM Updates*

The Allotrope Data Models and Allotrope Simple Model Suite release is available with a restricted access to the community members on:

- Client Connect: [here](#)
- GitLab: <https://gitlab.com/allotrope/adm/-/tree/master/>
- JFrog Artifactory: <https://allotrope.jfrog.io/ui/repos/tree/General/ADM-release-public>

### *ADM Model Updates*

Several updates were issued to set of ADMs following a bug fixing effort

### *ASM Model Creation or Updates*

Here is the list of the new set of ASMs released in this quarter.

ASM Model	Type	Maturity	Path	GitLab Links
Automated Reactors	Tabular	REC	ASM released in 2022/03	<a href="#">JSON schema</a> <a href="#">Sample file</a>
qNMR	Tabular	REC	ASM released in 2022/03	<a href="#">JSON schema</a> <a href="#">Sample file</a>
optical-microscopy	Tabular	REC	Promoted from CR to REC	<a href="#">JSON schema</a> <a href="#">Sample file</a>
sem (Scanning Electron Microscope)	Tabular	REC	Promoted from CR to REC	<a href="#">JSON schema</a> <a href="#">Sample file</a>

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## *Tooling, Testing, QA and Automation Pipeline*

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### *Log4j Fix with Logback*

The logging backend of some of the DevOp tools was changed to Logback . Logback is intended as a successor to the popular log4j project, picking up where log4j 1.x leaves off. For more information on Logback please refer to <http://logback.qos.ch/>

### *Updates to the AFO Pipeline and Tools*

Docker images for the pipeline were completely redesign and went with more specific docker image versions. Important changes in the tools:

- Change logging backend to Logback
- All tools need Java version 11 now
- OWL API (version 5.1.19)
- Jena (version 4.3.0)
- Hermit Reasoner for ontologies consistency check (version 1.4.3.456)

We would like to thank Karin Colman from the OSTHUS engineering team for her dedication and commitment to improve the overall tooling, testing, QA and automation pipeline.

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### *Working Group Updates*

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Please note that the working groups meetings are recorded to improve access and transparency for those unable to attend or for the folks that are just interested in what's going on. To sign up for any working group, go to: [www.allotrope.org/working-groups](http://www.allotrope.org/working-groups)

#### *Modeling: (Notes: [here](#))*

- The Modeling WG was working on updates to the Tensile Model
- The working group is anticipating a new set of tabular models during the next quarter

#### *Chromatography: (Notes: [here](#))*

- The group just started to work on a Gas Chromatography tabular model (to be modeled with ASM and ADM).
- We are looking for SMEs in Gas Chromatography to participate in the Bi-Weekly (Monday) Chrom WG. SMEs can be included in the WG invite by contacting the Product Team.
- At the beginning of the year, the WG had a discussion around modeling the sample/compound in chromatography and decided that it needs to be modeled under a new working group activity.

#### *MS: (Notes: [here](#))*

We would like to thank Graham McGibbon and Adam Kimball for stepping forward and continue to lead the MS working group.

- The team is working on Mass Spectrometry Tabular/Aggregation Model (a generic model)

#### *Semantic: (Notes: [here](#))*

- Continued discussions related to improving design and functionality.
- The working group will be discussing a strawman proposal to support Knowledge Graph.

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### *AF Community and Publications*

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#### *New Paper Published by an APN member*

The University of Cambridge (The department of Chemical Engineering and Biotechnology <https://www.tech.cam.ac.uk/> and Cambridge Centre for Advanced Research and Education in Singapore – CARES <https://www.cares.cam.ac.uk/>), an Allotrope APN member, recently published an extensive paper: "**From Platform to Knowledge Graph: Evolution of Laboratory Automation**". The paper references the Allotrope products in several cases. It can be downloaded freely (no need to sign in) from the *American Chemical Society* publication website at <https://pubs.acs.org/doi/10.1021/jacsau.1c00438>



### *New Allotrope Data Framework Onboarding Guide*

We have a new Onboarding Guide wiki page. Please refer to the following link: [Allotrope Data Framework Onboarding Guide](#)

### *Allotrope YouTube Channel*

The Allotrope YouTube Channel hosts the Allotrope Connect public presentations from 2020 to the latest fall 2021 Connect event (some previous event presentations are available as well). The YouTube Channel is available [here](#) and organized by playlists [here](#).

### *Community Website*

A reminder that the Allotrope Foundation Community website is an effort to improve and centralize the non-public knowledge and communication with the community. The GitLab-hosted website can be accessed <http://community.allotrope.org> Note this requires GitLab access.

Some of the pages to look for:

- Allotrope Foundation Data Models (ADMs):  
[https://community.allotrope.org/resources/reference/semantic/allotrope\\_data\\_models/](https://community.allotrope.org/resources/reference/semantic/allotrope_data_models/)  
The page includes information about the structure of ADM repository under the section “ADMS artifacts repository”
- ADF Application Programming Interface (API):  
<https://community.allotrope.org/resources/reference/adf/api/>
- ADF Specification: <https://docs.allotrope.org/>
- Allotrope Framework Semantic Style Guide:  
[https://community.allotrope.org/resources/reference/semantic/style\\_guide/afo\\_style\\_guide/](https://community.allotrope.org/resources/reference/semantic/style_guide/afo_style_guide/)
- Allotrope Foundation Data Model and Ontology Governance Process:  
[https://community.allotrope.org/resources/reference/semantic/governance/afo\\_adm\\_governance\\_process/](https://community.allotrope.org/resources/reference/semantic/governance/afo_adm_governance_process/)

(If you would like access to GitLab, please fill out our onboarding questionnaire, [here](#) – It’s a Google Form, so if your firewall denies access to Google drive links, please contact [amnon.ptashek@allotrope.org](mailto:amnon.ptashek@allotrope.org) ).

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### *Looking Forward*

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The Allotrope Product Team is looking forward to another very productive quarter and to develop additional improvements to meet the evolving needs of our community.

Please contact us for any questions at [product\\_team@allotrope.org](mailto:product_team@allotrope.org).

Sincerely,

Allotrope Product Team